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The Official Publication of the Podiatry-Chiropody Profession

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Intradermal Vitamin A

Unequal Leg Lengths

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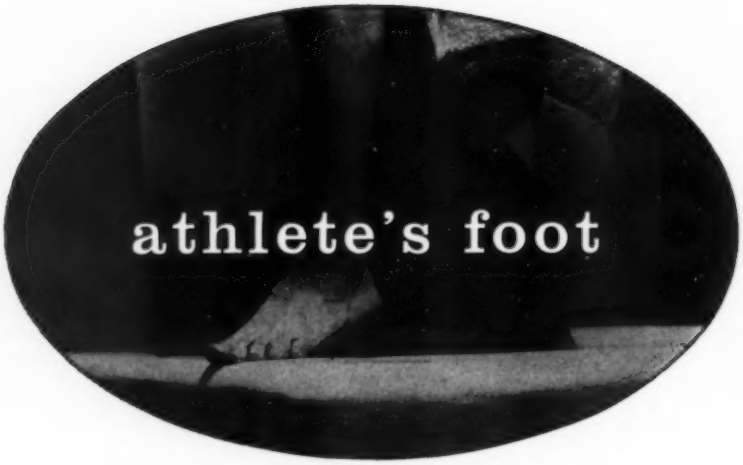
VOLUME 48, NUMBER 9

SEPTEMBER, 1958



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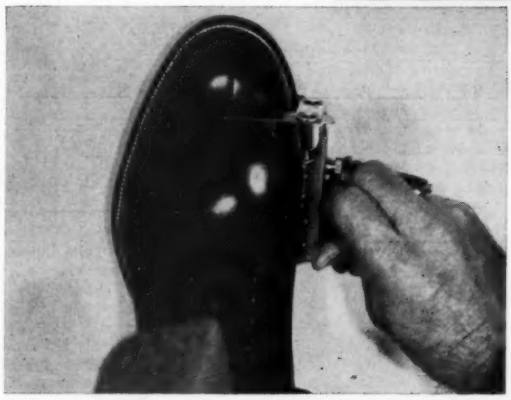

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Deadline for *Journal* copy is the 10th of the month before publication (example: copy for June issue should be in our hands by May 10th). The *Journal* is usually mailed between the 10th and 15th of the month noted on the issue (the June issue is mailed between the 10th and 15th of June).

Manuscripts must be typewritten, double spaced, and an original copy must be submitted. References should give name and initials of author, volume, page, month and year of publication in the case of periodicals, and publisher and place and year of publication in the case of books. Illustrations must be clear photographs. Glossy prints are preferred. Drawings must be made in black ink on heavy paper or cardboard. Any illustrations should bear the author's name and be numbered in the order in which they are referred to in the text. Illustrations must not be pasted on the manuscript. Legends should be placed on a separate sheet. Tables are not illustrations and should be numbered separately.

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Communications regarding manuscripts, news items, and editorial matters should be addressed to the Editor, those regarding advertising to the National Advertising Representative. Advertising and editorial copy must conform to the official standards established by the Association.

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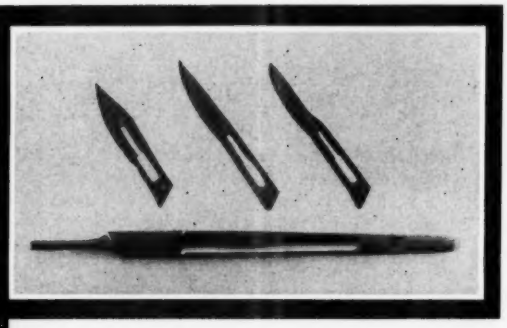

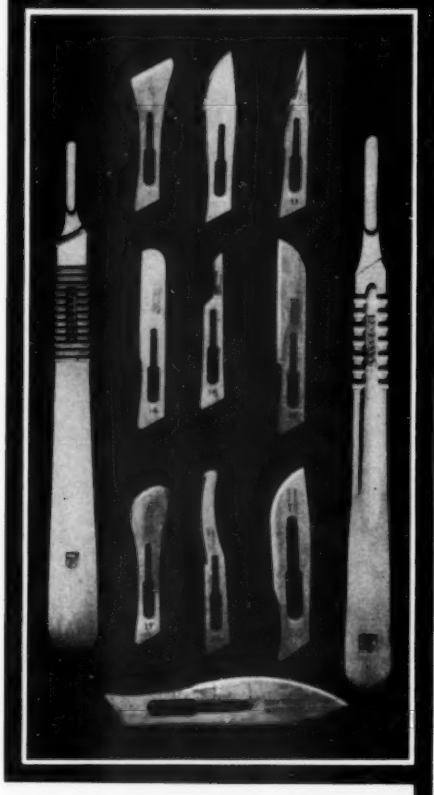

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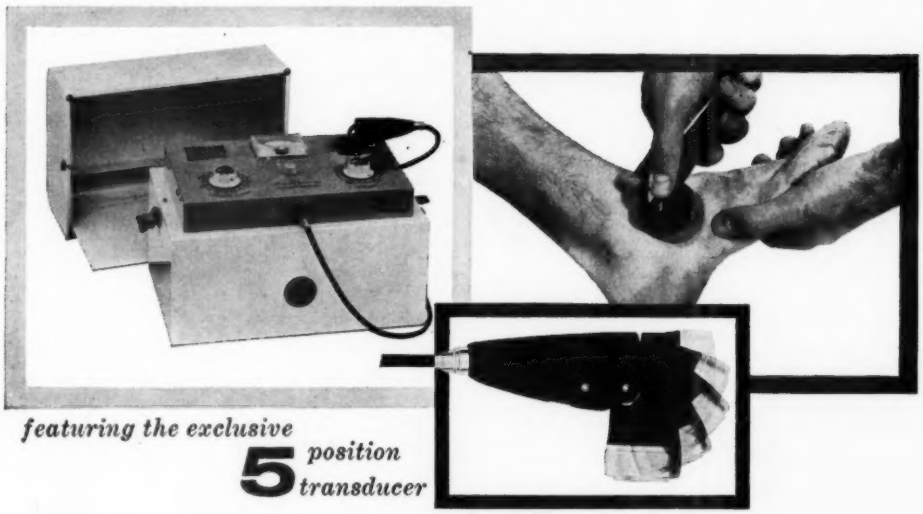

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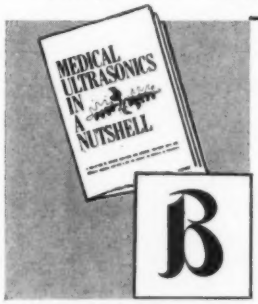

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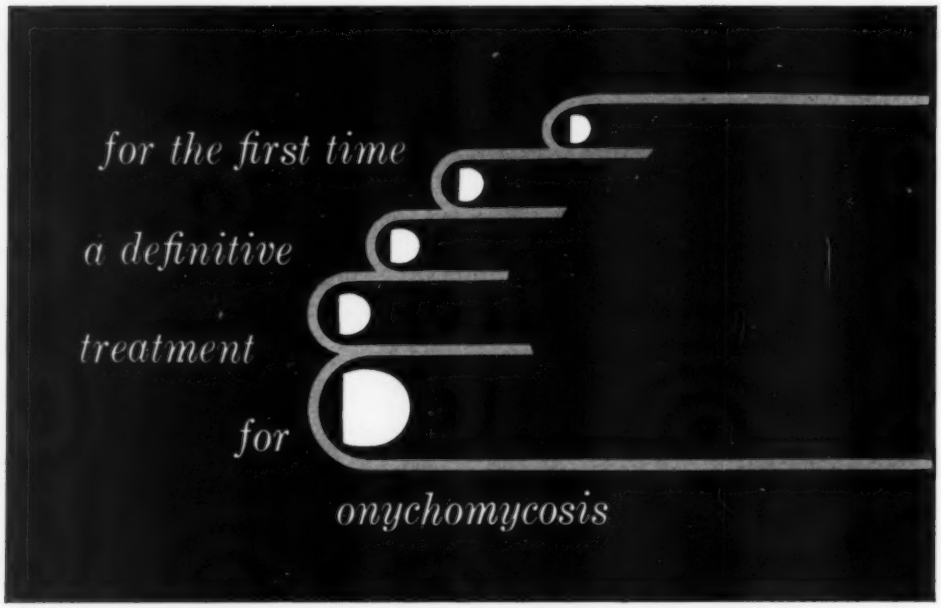

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A CONTROLLED EVALUATION OF SUBDERMAL CORTICOSTEROID INJECTIONS*

SHERWIN E. LEVY, D.S.C.
Los Angeles, Calif.

NUMEROUS references have appeared in the literature regarding injection therapy for clavi and callosities. In 1923, Pust[1] reported on the injection of pure alcohol under the base of the clavus. His therpay was beneficial in some cases; however, in many others an extensive slough was produced. Bowman[2] in 1939, experimented with the injection of a sclerosing solution for the treatment of clavi. It is difficult to draw conclusions regarding the efficacy of this type of therapy. In 1940, Cordingley[3] at first used sclerosing solutions with minimal results, but soon changed to procaine in high concentration with epinephrine. His best results were with the use of procaine. The only investigator who reported the use of a controlled series was Austin[4] in 1950. He injected 15 cases with a dosage of 2cc of procaine and a control group of 15 received the same volume of normal saline. Austin reported that "Results in the two series were practically identical." He further stated "This illustrates the soundness of our contention that mechanical separation of the adhesions underlying these simple corns is the basis of the success of the injection technique, not the type of solution used." Austin further reported a permanent correction, over a period of 2 years, of 65% of the lesions treated in both groups. In 1956 and 1958, Locke [5,6] reported the use of corticosteroids in the treatment of helomata. He stated "Patients who had experienced only short relief periods with all methods previously employed in the treatment of corns reported greater abatement of pain. Furthermore in most cases, reappearance of the growth was usually delayed and the excrescence frequently diminished in size and severity. The results were dramatic and, not infrequently, the helomata regressed completely." Since that time an increasing number of symposiums have included the subject of injectable corticosteroids in the treatment of clavi and callosities. This form of therapy has been enthusiastically received by many members of our profession, as was evidenced by the symposium on injection therapy in 1957, where Lane[7] confirmed Locke's findings.

The following is a controlled study to determine the efficacy and safety of the corticosteroids when injected for the treatment of clavi and callosities.

*From the Medical Service, Veterans Administration Center, Los Angeles 25, California.

Materials and Methods

Two groups of patients were treated. Injectable steroids were used in one group and in a second control group only the vehicle of the various corticosteroids was used. The patients treated in both groups had clavi and callosities which usually accompany orthopedic deformities and mechanical imbalances. For means of rigid control of patients and the evaluation of the injectables under study, no other means of therapy, including anesthetic agents, or orthopedic devices such as paddings, prosthetic shieldings, foot molds, appliances or special shoes, were instituted. Most of the patients in both groups were in the Veterans Administration Domiciliary and were readily available for close follow-up and control.

The first group consisted of 36 patients who were treated in 50 different sites with the corticosteroid solutions. The second, or control group, consisted of 28 patients who received the vehicle solutions in 29 different sites. Both solutions were injected subdermally beneath the clavus or callositas, using a tuberculin syringe and a 24 gauge needle.

A standard volume was maintained, which consisted of 0.5cc of the corticosteroid used in each site. This resulted in a dosage of 12.5 mgm. of prednisolone acetate, 10 mgm. of prednisolone tertiary butyl acetate, and 25 mgm. hydrocortisone acetate.

In the group treated with the corticosteroids there were a total of 54 injections administered to 50 different sites. Four patients were injected twice. Two patients received 2 injections of prednisolone acetate, one patient at an interval of 3 weeks, and one patient at an interval of 2 months. One received an injection of prednisolone TBA, followed in 6 months by an injection of hydrocortisone acetate. One patient received an injection of prednisolone acetate followed by an injection of prednisolone TBA 7 weeks later.

In the control group, the injectable used was the vehicle in which prednisolone acetate and prednisolone TBA are suspended. These were kindly supplied by the manufacturers. Each site was injected once with 0.5cc of the vehicle used.

The patients in both groups ranged in age from 23 to 76 years. The average age of the patients in the group receiving the corticosteroids was 57.7 years, and the average age of the patient in the control group was 60.5 years.

No patient was included in this study in which the excrescence was not in existence for at least one year. The duration of the lesions ranged from 1 to 60 years, with the average being 14 years.

In both groups the lesions were severe enough for the patients to seek professional care. 41.5 percent of the patients had had either routine or intermittent care by a podiatrist. 51.5 percent instituted treatment at home by trimming lesions and/or applying commercial keratalytic preparations. Seven percent of the patients reported no form of care.

All of the steroid treated group were evaluated 5 months after the injection; twenty of the thirty-six patients were available for follow-up at 15 months. The control group were likewise all evaluated 5 months after injection.

Due to the many variables present in clinical research, it becomes difficult to objectively evaluate therapeutic results, especially in conditions of a chronic nature. As many as possible of these variables have been eliminated in this study so that the results of the injection therapy could be evaluated objectively. Some criteria had to be established by which a consistent method for determining results could be maintained. In closely reviewing the literature on injection therapy, the methods for determining results are in general not stand-

ardized. One method employed by most authors was the relief of pain. Since this seemed to be the most consistent end point for determining the success of injection therapy, it has been utilized in tabulating the results of this study. The criteria by which the results were determined was as follows:

A. Success
   1. 75%-100% relief of pain.
B. Failure (the presence of any one indicating failure)
   1. Less than 50% relief of pain.
   2. Ulceration.
   3. Reaction—pain lasting over one week.
C. Questionable
   1. 50% relief of pain.

Results

Tables I and II summarize the results which have been tabulated as to the number of sites treated, rather than the number of patients.

TABLE I

Corticosteroid Group

36 patients	50 sites	
1. Dorsal	29 sites	
a. Success	13	(44.8%)
b. Failure	13	(44.8%)
c. Questionable	3	(10.3%)
2. Weight bearing	21 sites	
a. Success	8	(31.1%)
b. Failure	10	(47.6%)
c. Questionable	3	(14.3%)
Total Successes	21	(42%)
Total Failures	23	(46%)
Total Questionables	6	(12%)
Side Effects		
1. Ulcerations	6	(12%)
2. Atrophy	7	(14%)
3. Pain Reactions	8	(16%)
Total Side Effects	21	(42%)

In the steroid treated group there were 16 sites in which there was a complete regression of the lesion. In 6 of these 16 sites there were no side effects. In 10 sites atrophic changes continued after regression of the lesion, 7 sites presenting subdermal atrophy and 3 sites going on to develop ulcers. Three sites presented ulceration with surrounding callous formation. There was a complete regression of 32% of the lesions at the time of evaluation. This includes those lesions with the side effects of atrophy and ulceration. There was a complete recurrence of 28% of the lesions, and a partial recurrence of 40% of the excrescences in the steroid group.

TABLE II

Control Group—Vehicle Only

28 patients	29 sites	
1. Dorsal	5 sites	
a. Success	5	(100%)
b. Failure	0	
c. Questionable	0	
2. Weight Bearing	24 sites	
a. Success	12	(50%)
b. Failure	6	(25%)
c. Questionable	6	(25%)
Total Successes	17	(58.6%)
Total Failures	6	(20.7%)
Total Questionables	6	(20.7%)
Side Effects	NONE	

The control group presented four sites in which there was a complete regression of the lesion with no side effects. There was a 14% complete regression of the lesions at the time of evaluation. There was a complete recurrence of 45% of the lesions, and a partial recurrence of 41% of the excrescences in the control group.

Six of the thirty-six patients receiving the corticosteroids developed an ulcer. This constituted 12% of the sites. Three of these patients received only one injection, and three received two injections of the corticosteroid. Ulcers developed as soon as two months after the injection, and one patient developed an ulcer 15 months after injection. The average length of time before

the appearance of an ulcer was 6 months. Two of the patients developing ulcers received prednisolone acetate, two received prednisolone TBA, one received hydrocortisone acetate, and one received prednisolone TBA and hydrocortisone acetate.

Seven patients in the steroid group presented 8 (16%) sites in which there was a painful reaction to the injectable. This lasted from one week to two months, the average duration being three weeks. All patients who had pain reactions received prednisolone TBA. In most cases, pain was of such severity as to prevent the patient from wearing dress shoes, and in most cases the patient wore a loose type of foot gear. In the most severe reaction, the patient was compelled to wear a cut-out shoe for a period of two months.

Six patients in the steroid group presented 7 (14%) sites with dermal and subdermal atrophy. Three of these areas were on the dorsum of the toes, and four were on weight-bearing areas. No plantar ulcerations have developed to date in these atrophic areas.

In the control group which received the vehicle, there were no ulcers, no pain reactions, and no subdermal atrophy.

Discussion

When multiple forms of therapy, such as supportive measures, anesthetic agents, and corticosteroids are introduced in the treatment of helomata, it becomes difficult to assess the efficacy of any one of the therapeutic agents.

The purpose of this study has been to eliminate all variables possible and concentrate on the therapeutic effect and the safety of the use of the corticosteroids. This has been accomplished by the elimination of variables, such as orthopedic management, and by the institution of a control group who were treated identically except for the drug. A higher percentage of relief of pain was obtained by the patients receiving the vehicle alone as compared to those receiving the corticosteroids. In addition, the side reactions, including pain, atrophy, and ulcerations, must be considered. A portion of these side effects may be attributed to the higher dosage of corticosteroids used in this study as compared to previous studies.

It was noted that the regression of the lesions was greater in the steroid treated group, which is probably explained by the anti-inflammatory effect and inhibition of fibroblastic proliferation of the corticosteroid drugs. The lesser regression of the excrescences in the control group, but higher percentage of relief of pain, may be attributed to Austin's concept of mechanical separation of the underlying adhesions.

The use of drugs which produce atrophy of tissue should be employed with caution in areas which are actively or potentially subjected to trauma. It has been demonstrated experimentally with animals that the corticosteroids produce atrophy.[8] Atrophy and ulceration were noted as long as 15 months following initial injection.

This study demonstrates that in general the corticosteroids do not provide a shortcut to therapy, and that the standard procedures of realignment, balance, and gait, are the overall influencing factors. The treatment of the musculoskeletal system still provides the most effective approach for the control of these lesions, and any results obtained with a combination of these methods may be partially attributed to orthopedic management.

No supportive measures were used among the 65 patients treated in either group in this study. Considering that the percentage of successes was higher with the use of a completely innocuous medication and in view of the severity of the side reactions with the corticosteroids, the latter should be used with caution. It would appear from the literature that the lack of side reactions encountered with the use of corticosteroids is due to the concomitant

employment of standard podiatric measures.

Summary

1. The literature regarding injection therapy is briefly discussed.
2. Thirty-six patients were treated for 50 different clavi and callosities with injectable corticosteriod solutions.
3. A control group of 28 patients were injected with the vehicle in 29 different clavi and callosities.
4. Under the conditions of this study, it has been found that in the control group, 58.6% of the sites were successes. This is compared to 42% of the sites which were successes in the steroid treated group.
5. In the steroid treated group there was a 32% complete regression of the lesion, a 28% complete recurrence, and a 40% partial recurrence. In the control group, there was a 14% complete regression of the lesions, a 45% complete recurrence, and a 41% partial recurrence.
6. Forty-two percent of the sites treated with corticosteroid solutions developed the following side effects: Ulcers 12%, severe pain 16%, subdermal atrophy 14%.
7. There were no side effects in the control group injected with the vehicle alone.
8. A high incidence of side effects lends some thought to caution in the injection of corticosteroids subdermally.
9. No references in the literature were noted regarding the side effects from subdermal corticosteroid injections. This may be explained by the orthopedic management instituted in conjunction with the injection therapy.
10. There is some question whether the corticosteroids have produced any therapeutic effect that would not have been produced by supportive measures and the injection of the control solution.

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Francis Ellingwood Abbott

THE PLACE OF AN INTRADERMAL VITAMIN A INJECTION IN THE ROUTINE MANAGEMENT OF HELOMATA

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THE introduction of topical vitamin A injection for the removal of resistant warts[1] represents a significant contribution of podiatry to the science of therapeutics. Vitamin A injection would appear to be the method of choice for these lesions because of (1) the high percentage of success obtained compared to methods heretofore available, (2) freedom from incapacitation during treatment, and (3) low incidence of recurrence of the lesion after treatment is completed. The same method has more recently been applied to the neurofibrous heloma[2,3] and the common heloma durum and molle[4] and threatens to revolutionize the podiatrist's traditional approach to such conditions. The results are characterized by prompt relief of pain and ultimate resolution of the lesion in a high percentage of cases, with a longer comfortable interval between treatments in the remainder. In this report we will first give our results in the use of vitamin A injection in various types of heloma and then show how, in our experience, this therapy fits into routine podiatric practice.

Procedure

The vitamin A preparation* used contains 50,000 U.S.P. units per cc. of synthetic vitamin A palmitate in distilled water along with various stabilizing inert ingredients. The area is anesthetized by spraying with ethyl chloride and then promptly injecting a local anesthetic before the brief superficial freezing wears off. Xylocaine®[1], 2%, is preferred although other anesthetics are also useful. No epinephrine is used with the anesthetic in injecting lesions on the toes in order to avoid any possible question of an adverse effect in an area where the circulation may be poor. The anesthetic is injected using a 2 cc. syringe and 25 gauge, ½ inch needle with the bevel facing up. The needle is inserted into normal skin at an angle of 30° and about ¼ inch from the margin of the lesion and is then advanced so that it lies just beneath the heloma as in Fig. 1.

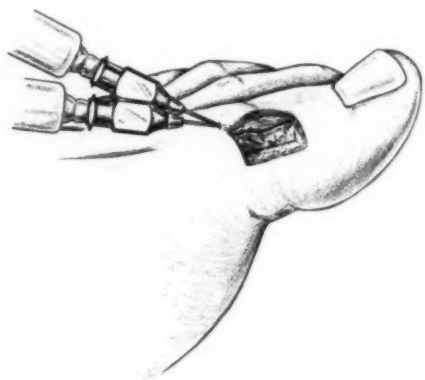

Fig. 1. Drawing showing correct needle placement for injection of vitamin A (Keramin) and local anesthetic. The anesthetic is first given deeply and then the angle is changed and the vitamin is injected superficially through the same needle using a different syringe body.

A dose of one cc. is satisfactory in most cases depending on the thickness of the tissue. The volume of anesthetic is adjusted so that the vicinity of the lesion is only moderately distended due to the pressure of the fluid introduced.

In order to avoid puncturing the skin

*Keramin Injection, Campbell Pharmaceutical Co., New York
®[1] Astra

twice, with attendant discomfort and leakage, the vitamin A is now given through the same needle as the anesthetic. The first syringe is detached and replaced with a tuberculin syringe containing the solution. The needle is then pulled back slightly and redirected toward the surface so that the tip lies in the heloma, care being taken to keep the bevel still facing up. The vitamin A is then injected into the heloma at a dose of roughly 0.1 cc. for each mm. of the diameter of the lesion. There is considerable back pressure during this injection which should be very slow and steady with the finger always held firmly on the plunger of the syringe. The needle is held in place for a minute or two and then removed quickly to minimize leakage. The site of the injection is covered with a sterile Band-Aid®[2]. Bathing is permitted after 12 hours.

An alternative procedure for anesthetizing the area is shown in Fig. 2. The following precautions are considered the most important: (1) inject the vitamin A superficially, (2) use a sharp needle, (3) rinse the syringe with the solution to be injected or otherwise make sure that there is no contamination with sterilizing chemicals, or residual materials in the sterilizer water.

Results

In this series there were 30 cases of heloma durum, 6 of heloma molle and 4 of heloma neurofibrosum. The therapetuic results were as follows:

	No. of lesions
Complete resolution	37
Asymptomatic but site of lesion still visible when last seen	2
Treatment unsatisfactory (Case ES)	1
Total lesions	40
Total patients	39

®[2] Johnson & Johnson

As might be expected there were more women than men in the series in the ratio 65 to 35. All were adults and their ages ranged from 21 to 80 years.

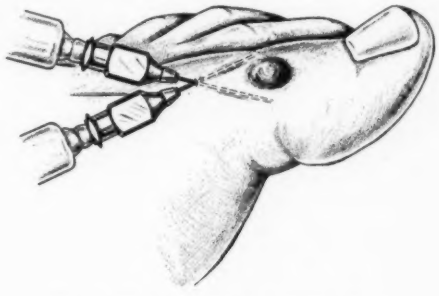

Fig. 2. Drawing showing an alternative method of producing anesthesia. Half of the anesthetic is injected on each side and proximal to the corn using one needle and syringe and puncturing the skin once. Keramin is then injected close to the lesion as shown in figure 1.

The number of injections given was distributed as follows:

No. of injections	1	2	3	4	5	6	7
No. of helomata	5	13	13	6	0	2	1

Thus in 92% of the lesions, no more than 4 injections were required. The average was 2.8.

Side reactions were minimal and may be summed up as follows:

	No. of cases
Slight burning sensation	1
Itching	4
Painful bulla (Case VM)	1

Follow-up is notoriously difficult and especially so when the patient is asymptomatic. Nevertheless, 9 patients were checked and found to have no recurrence of the lesion after intervals of 2, 2, 3, 4, 4, 4, 6, 9, and 12 months. It seems probable that some of these helomata will re-form as a result of the same conditions which caused them in the first place. The indications are, however, that the majority have been permanently resolved.

Protocol of Series Reported

Patient	Age and Sex	History and Diagnosis	Site	No. of injections of Keramin	cc. injected	Response and Comments
P. W.	46 F	Heloma durum; very painful	1st toe	2	0.4	Asymptomatic and lesion almost resolved after 1st injection; patient given 2nd injection and discharged
M. M.	60 F	Heloma durum; burning	1st toe	3	0.3	Asymptomatic after 1st injection; complete regression after 3rd
M. O.	37 F	Heloma durum		3	0.3	Complete regression
N. O.	27 F	Heloma durum; very painful		3	0.3	95% regression; no recurrence after 9 months
M. B.	63 F	Heloma durum	1st metatarsal head	2	0.4	Complete regression
P. D.	55 M	Heloma durum; very painful	1st toe	3	0.3	Complete regression
M. O.	Adult M	Heloma durum; burning	5th metatarsal head	3	0.2	Asymptomatic after 1st injection; complete regression after 3rd
L. P.	Adult F	Heloma durum	5th metatarsal head	4	0.5	Asymptomatic after 2nd injection; complete regression after 4th
M. P.	Adult F	Heloma durum; very painful	plantar	4	0.5	Complete regression after last injection even though injections were spread over 4 month period
J. H.	Adult M	Helomata dura	Plantar, both feet	3 r. ft. 2 l. ft.	0.5 0.5	Complete regression Complete regression
A. B.	Adult M	Heloma durum	5th metatarsal head	2	0.5	Complete regression
E. S.	Adult M	Heloma durum; burning	3rd metatarsal head	3	0.5	No improvement; patient discontinued treatment
J. M.	50 M	Heloma durum; 10 years' duration	4th toe	6	0.5	Complete regression
F. D.	50 F	Heloma durum; 5 years' duration	5th toe	2	0.5	Complete regression
V. M.	26 M	Heloma durum	2nd metatarsal head	2	0.3	Complete regression
J. B.	21 M	Heloma durum	4th metatarsal head	3	0.3	Complete regression
V. M.	45 F	Heloma durum	2nd metatarsal head	2	0.4, 0.3	Bulla formed after 2nd injection which was extremely painful and incapacitating for 2 days; bulla opened and antibiotic ointment applied; healed promptly with complete regression of corn
B. W.	47 F	Heloma durum; conventional therapy	5th toe	2	0.3	Complete regression; no recurrence at 2 month follow up
P. C.	80 M	Heloma durum with bursa; severe pain and burning; conventional therapy at 3 week intervals; prosthetic appliances unsuccessful; 20 years' duration	2nd toe	3	0.3	Asymptomatic after 1st injection; complete regression after 3rd
R. S.	41 F	Heloma durum with bursa; patient couldn't tolerate touch of bed sheets; able to wear only open sandals; previous treatment—topical injection of cortical hormones	5th toe	4	0.3	Asymptomatic after 1st injection; complete regression after 4th; now can wear normal shoes; no recurrence at 6 month follow up

Discussion

Heretofore, the corn has been considered strictly as a chronic disease since it is only rarely that either local treatment or prophylactic measures have been able to effect a "cure." The great majority of cases seen by the podiatrist have first been self-medicated and then given routine podiatric care over a variable period of time. Such patients experience considerable discomfort unless they receive attention at regular intervals and are never entirely well. The following scheme applies especially to this statistically important section of the podiatrist's practice:

1. All types of corns may be included in connection with the use of vitamin A injections. Common hard corns, neurovascular, neurofibrous and soft corns whether a bursa is present or not, all are eligible.

2. At the first visit the heloma is pared superficially just enough to see the underlying pathologic changes, such as, hypertrophy of the papillae and widening of the papillary lines. If paring is too deep, it will be difficult for the tissue to retain injected fluid. Vitamin A solution is then injected as described above. The patient is instructed to return in a week and is told that anywhere from 3 to 15 injections at weekly intervals may be required if complete resolution of the lesion is to be obtained. Usually this first injection will result in dramatic relief of discomfort which is, after all, the principal reason the podiatrist was consulted. In our series, no case required more than 7 injections and the average was about 3.

3. When improper footwear is being worn or anatomical abnormalities are present, the necessary corrective measures are instituted as early as possible, usually on the second visit. After treatment is completed, the patient is told that the lesion may return unless he perseveres with corrective podiatric therapy. Even without proper measures, the corn will not return as rapidly as after conventional management. There will be a longer comfortable interval between visits if permanent resolution is unattainable. It has been our consistent finding that substantial benefit is obtained even if the lesion has not been completely eradicated.

4. Measures are recommended to correct hyperhidrosis, especially in cases of heloma molle.

5. At the initial examination a record is made of all pertinent data, including previous x-ray therapy, presence of exostoses, enlarged condyles, osteoarthritic manifestations, contracture of toes, congenital malformations, bursae with or without calcium deposits, etc. The patient's status is re-evaluated at each visit as to shoes and prosthetic appliances. The size of the lesion (in two planes) and changes in the lesion such as enlarged papillae or blood vessels, presence of neurofibrous tissue and the like are carefully noted.

6. When the patient is discharged it is suggested that he return at the first sign of any discomfort.

7. Patients with well-defined peripheral vascular disease with or without diabetes are not given intra- or subdermal injections or any kind, including vitamin A.

In recommending the use of vitamin A injection according to the above plan we are aware that we may be proposing a significant change in podiatric practice but we feel that this course is justified by our results and those of others. Many sufferers from chronic helomata become discouraged and resort to self-medication or "bathroom surgery" because of the economic drain of regular palliative therapy. This technic offers more to such patients and they will seek more professional care as they learn

Protocol of Series Reported (Continued)

Patient	Age and Sex	History and Diagnosis	Site	No. of Injections of Keramin	cc. injected	Response and Comments
T. F.	48 M	Deep related heloma; 10 years' duration	Plantar under medial margin of cuboid	7	0.3	Signs of change after 4th injection; complete regression after 7th; no recurrence after 2 month follow up
E. R.	51 F	Heloma durum; conventional therapy every 3 to 4 weeks; 18 years' duration	5th toe	1	0.3	Complete regression; no recurrence after 4 month follow up
D. N.	30 F	Heloma durum; conventional therapy every 3 to 4 weeks; 10 years' duration	5th toe	1	0.3	Complete regression; no recurrence after 1 year
R. F.	44 F	Heloma durum; most recent therapy 25% tincture pyrogallic acid; 8 years' duration	1st metatarsal head	1		Complete regression; physiologic callus but no recurrence of heloma at 4 month follow up
J. S.	44 F	Heloma durum with bursa; stabbing pain	5th toe	4		Asymptomatic after 1st injection; complete regression after 4th
T. S.	49 F	Heloma durum with bursa; burning pain severe enough to interfere with sleep	5th toe	4	0.4	Patient comfortable after 2nd injection; complete regression after 4th
S. G.	46 F	Heloma durum with bursa; severe pain	5th toe	4	0.5	No pain but slight itching after 2nd injection; complete regression after 4th
P. C.	38 M	Heloma durum; burning and neuralgia extending to dorsum of foot	4th metatarsal	3	0.5	Asymptomatic after 2nd injection; complete regression after 3rd
M. J.	30 F	Heloma durum; previous treatment—molded shoes, balance therapy without complete relief; 11 years' duration	3rd metatarsal head	3	0.5	Complete regression; asymptomatic since 1st injection
K. M.	35 F	Heloma neurofibrosum; 10 years' duration; conventional therapy	2nd metatarsal head	2	0.5	Complete regression
J. M.	50 M	Heloma neurofibrosum; 10 years' duration	1st toe	6	0.5	Complete regression
M. A.	48 F	Heloma neurofibrosum; 10 years' duration	2nd metatarsal head	2	0.5	Complete regression
L. M.	33 F	Heloma neurofibrosum; previous treatment—cryotherapy, escharetics and surgery with recurrence	Posterior aspect of proximal phalange	3	0.5	Asymptomatic after 1st injection except for itching; complete regression after 3rd; no recurrence at 4 month follow up
E. S.	32 M	Heloma molle; painful	4th interdigital space	1	0.3	Complete regression
Y. S.	60 F	Heloma molle	4th interdigital space	2	0.3	Complete regression
P. B.	60 M	Heloma molle	4th interdigital space	3	0.4	Complete regression; slight burning sensation after Keramin
I. B.	51 M	Heloma molle; exquisitely painful with shoes on or on lateral pressure	4th interdigital space in web	2	0.4	Complete regression; slight itching locally after 1st injection
T. B.	73 F	Heloma molle with bursa; severe pain and inflammation 10 years' duration; conventional therapy at short intervals without success	5th toe	1	0.2	Complete regression; no recurrence at 3 month follow up
F. S.	35 F	Heloma molle with bursa; severe pain; usual podiatric care; 13 years' duration	4th interdigital space	2	0.3	Slight itching after 1st injection; none after 2nd; complete regression

that permanent resolution of their heloma is now feasible.

Summary

Previously reported results on the resolution of helomata by injection of aqueous synthetic vitamin A palmitate solution (Keramin) have been confirmed. In our series 38 out of 39 patients became asymptomatic after an average of 3 injections while complete regression was obtained in 36. The procedure was very well tolerated and can be recommended for routine use in the practice of podiatry.

717 Broadway

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SPECIAL PODIATRIC FORMULATIONS FOR DISPENSING BY THE HOSPITAL PHARMACY

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THE inception of a podiatric clinic as one of the treatment facilities of a hospital clinic creates many problems of coordination and integration with other existing treatment departments and auxiliary sections. One such need is in the area of drug dispensing.

It must of course be realized that every hospital has its rules and regulations, which govern the dispensing of drugs for the protection of the hospital and clinic, and also the safeguarding of the patient.

This report will deal with the procedures experienced as a member of the podiatric staff at city, private and semi-private hospitals.

It must be recognized that in every clinic the pharmacy department dispenses only those drugs, and/or combination of drugs, which have been officially approved. These are listed in a manual called the "Hospital Formulary." When a podiatry clinic begins to function it is found that the "Hospital Formulary" does not include the drugs and preparations necessary for podiatric care. This lack of an adequate and complete formulary in hospital-connected podiatric clinics stems from the fact that such clinics have been established in the various hospitals for a comparatively short period of time.

The hospital formulary, wherever it is in existence, is primarily an aid for the physician in his daily routines at the hospital, and no attempt has heretofore been made to correct this situation. It is with this view in mind, and with discussion with the chiefs of these services that a "modus operandi" be established which could be, perhaps, introduced into other hospital-connected podiatric clinics.

At the present, when a prescription is written at a hospital, unless it appears in the accepted formulary, the chances of it being filled are very rare. The formulary at a hospital does not include preparations of an external nature, which are constantly called for by the podiatrist. Although the hospital formulary does include some external preparations, nearly all are of special interest to the dermatologist, and are not suitable for our needs.

It is discouraging and sometimes disturbing to have a clinic patient return after

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visiting the pharmacy and be told that this or that is not available and that the prescription would have to be filled at an outside pharmacy. In addition, it is annoying to be called by phone and asked to delete this prescription and to write another, or none at all. Many of these patients are indigent and on welfare, and consequently cannot afford the price of a compounded prescription. It becomes essential, therefore, that the prescription be available at the hospital pharmacy.

To overcome the problem of clinic prescription writing, a satisfactory formulary must be addended to the "Hospital Formulary." It must meet the approval of the chief and his staff, and it must certainly meet the approval of the chief of pharmacy. By cooperatively submitting various types of prescriptions and preparations, a list of those most suitable can be thus added to the hospital formulary and become an integral part of the hospital pharmacy pharmaceutical manufacture and package. It is utterly impossible to compound each and every prescription separately for each clinic patient. Time is essential. These preparations must be prepared in advance and packaged, so that a label containing the patient's name, directions, and the podiatrist's name can be attached to the prepared package.

I have classified the various types of preparations suitable for a podiatric clinic in the following manner:

1. Wet Dressings
2. Emollients, Protectives and Demulcents
3. Foot Powders
4. Fungicides and Fungistatics
5. Vulnerary Agents
6. Astringents and Deodorants
7. Analgesics and Antipruritics
8. Miscellaneous

To each of these classifications I have designated at least two formulae, to be manufactured, stocked and dispensed on prescription.

These formulae have been suggested for approval at any hospital. They may be altered to suit the needs of other clinics. I have purposely avoided internal medications, for it is felt that those we would want would be in the hospital formulary. Likewise, this list does not include stock preparations for your immediate use at any clinic.

WET DRESSINGS

Mag. Sulf Wet Dressing

R/Sat. Sol. Mag. Sulf.	
Alcohol, 95%	aa qs

Boric Acid Wet Dressing

R/Glycerin	10%
Sat. Sol. B.A.	
Alcohol, 95%	aa qs

Thiersch's Sol.

R/Ac. Salicylic	0.6
Ac. Boric	6.0
Aq. Dest. qs ad	120.0

EMOLLIENTS-PROTECTIVES-DEMULCENTS

Emollient

R/Hydrophilic Oint.	60%
Aq. Dest.	40%

1-2-3 Ointment

R/Alum. Acet. Sol.	10.0
Lanolin	20.0
Zinc Oxide Paste	30.0

Emulsion Lotion

R/Talc	
Zinc Oxide	
Anhydrous Lan. aa	15.0
Olive Ol.	65.0
Burow's Sol.	3.0
Lime Water qs ad	150.0

Note: Plain Formula
May add phenol, methol, ichthammol, coal tar, etc.

Cocoa Butter Cream

R/Cocoa Butter	24.0
Beeswax	12.0
Anhydrous Lanolin	10.0
Almond Oil	60.0
Water qs ad	120.0

Lanolin Lotion

R/Hydrous Wool Fat	20.0
Stearic Acid	2.0
Triethanolamine	0.8
Liq. Petrolatum Light	10.0
Rose water qs ad	100.0

Brittle Nail Cream

R/Lanolin, Anhydrous	30.0
Peach Kernel Oil	6.0
Corn Oil	2.0
Castor Oil	2.0
Beeswax, Yellow	4.0
Cetyl Alcohol	2.0
Borax	1.0
Water qs ad	100.0

Skin Lotion

R/Tragacanth, powdered	1.0
Alcohol	7.0
Glycerin	14.0
Peanut Oil	3.5
Tr. Benzoin	2.0
Dist. Water ad	100.0

FOOT POWDERS

G. I. Foot Powder

R/Salicylic Acid	2.0
Boric Acid	6.0
Zinc Stearate	3.0
Exsiccated Alum.	1.0
Starch	10.0
Powdered Talc	78.0
	——
To Make	100.0

Deodorant Foot Powder

R/Paraformaldehyde	4.0
Tannic Acid	6.0
Boric Acid	1.0
Purified Silicious Earth	5.0
Bentonite	5.0
Mag. Carb.	10.0
Mag. Stearate	10.0
Precip. Chalk	10.0
Talc qs ad	100.0

Pulv. Ac. Undecyl. Comp.

R/Clove Oil	0.12
Cinnamon Oil	0.12
Undecylenic Acid	1.20
Zinc Undecylenic Acid	12.00
Boric Acid qs ad	60.00

FUNGICIDES AND FUNGISTATICS

Epidermophytosis Solution

R/Sod. Propionate	6.0
Ac. Salicylic	2.0
Phenol	
Menthol aa	0.5
Isopropyl Alc qs ad	60.0

Fungal Ointment

R/Whitfield's Oint.
U.S.P.

VULNERARY AGENTS

Interdigital Fissure Lotion

R/Menthol	2%
Chloral Hydrate	5%
Camphor Water	10%
Calamine Lotion qs ad	30.0

Healing Denuded Nail

R/Oleum Ricini
Balsam Peru aa qs

ASTRINGENTS AND DEODORANTS

Foot Deodorant Liquid

R/Acetic Acid	4.0
Alcohol, Isopropyl	50.0
Cologne water qs ad	100.0

Hyperhydrosis Solution

R/Aluminum Chloride	30.0
Isopropyl Alc.	12.0
Tr. Cudbear	0.4
Aq. Rosae qs ad	120.0

Astringent Foot Deodorant

R/Formaldehyde	0.5
Chlorthymol	0.2
Salicylic Acid	2.0
Glycerin	10.0
Alcohol	33.0
Oil Lavender	0.3
Water qs ad	100.0

ANALGESICS AND ANTIPRURITICS

Neuralgia Ointment

R/Menthol	4.0
Camphor	4.0
Methyl Salicy	8.0
Lanolin qs ad	60.0

Neuralgia Liquid

R/Oil Wintergreen	4.0
Chloroform	15.0
Menthol	2.0
Alc., Isopropyl qs ad	120.0

Cod Liver Oil Oint.

R/Cod Liver Oil	50.0
Lanolin	5.0
Paraffin	4.0
Thymol	1.0
Eucalyptol	1.0
Oil Peppermint	0.7
Petrolatum qs ad	100.0

Mentholated Cold Cream

R/Menthol	1.0
Rose water Oint. qs ad	100.0

Analgesic Balm

R/Camphor	1.3
Menthol	1.3
Methyl Sal.	10.0
Hydrous Wool Fat	30.0
White Pet. qs ad	120.0

Analgesic

R/Eucalyptol	25.0
Oil Cajeput	25.0
Menthol	100.0
Methyl Sal.	500.0
White Beeswax	200.0
Hydrous Wool Fat	150.0

Antipruritic Medication

R/Sod. Thiosulfate	8.0
Phenol Liq.	3.6
Glycerin	30.0
Aq. Dest. ad	180.0
R/Menthol	0.5
Phenol Liq.	0.5
Zinc Oxide	
Talc aa	20.0
Glycerin	15.0
Aq. Dest.	70.0
R/Phenol	1.0
Boric Acid	5.0
Glycerin	5.0
Powdered ZnO	30.0
Witch Hazel	60.0
Dist. Water qs ad	180.0

MISCELLANEOUS

Foot Bath Powders

R/Ac. Salicylic	0.6
Eucalyptol	0.12
Menthol	0.12
Zinc Sulfate	15.0
Boric Acid ad	120.0
R/Soap (Powdered)	20.0
Borax	20.0
Sod. Carbonate Anhydrous	60.0

Calloused Nail Groove

R/Ac. Salicylic	0.6
Spts. Camphor	4.0
Tr. Persionis	0.3
Glycerin qs ad	60.0

Hyperkeratosis

R/Anhydrous Lanolin
Ung. Aq. Rosae
aa qs

The list of preparations are numerous and varied, and for general routine use they fulfill basically the desired needs of a well-organized and functioning clinic. As newer and more appropriate formulae are established, these can be added to the hospital formulary or another be replaced. This paper is not intended to provide nor substitute for the prescription writing of office practice with outside pharmacy participation.

1501 West 6th St.

A LATEX FOREFOOT DEVICE WITH THREEFOLD ACTION*

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THIS case is presented to show the possibilities of a combination latex forefoot shield worn directly on the foot whose action was threefold: (1) Pressure was directed away from a very painful bursitis overlying a hallux valgus, (2) and from a very painful plantar neurofibrous heloma, (3) the device compensated for an imbalance of the forefoot. The appliance was more effective than any previously used foot appliance, made dynamically on the foot or from a corrected model.

The patient was a 55-year-old female. Her chief complaint was pain in the bursa overlying the hallux and a neurofibrous lesion slightly anterior to the second metatarsal head of the left foot.

Her history suggested rheumatoid arthritis with fusiform swelling, pain and tenderness in the joints of the fingers, wrists and knees, bilaterally and symmetrically. Exacerbations and remissions occurred through the years.

X-ray examination (Fig. 1) seemed to confirm this and there was subluxation of the 2nd, 3rd, 4th metatarsophalangeal articulations of the left foot. A pronounced hallux was also observed.

The first appliance made was for the hallux. This was a conventional jacket using a build-up anterior and posterior to the painful bursitis. Pressure was relieved and she was very comfortable in this area. However, relief here seemed to accentuate the painful neurofibrous lesion on the plantar. In view of the fact that plantar appliances placed in her shoe did not seem to be effective, a combination hallux pad, plantar cup for the lesion and balance pad was fabricated. (Fig. 2).

In addition to forming a depression into which the plantar lesion would fall, medial and lateral pads were placed between the first and second metatarsal and under the fourth and fifth metatarsals respectively. The medial and lateral pads were one-eighth inch thick while the center "cut-out" pad was only one-sixteenth of an inch.

Fig. 1 Shows rheumatoid arthritic involvement and hallux valgus.

These pads were used on the basis of the biplane imbalanced foot described by Dr. Turchin[2]. In the biplane imbalanced foot, weight is transferred from the heel to the metatarsal area and then cannot be resolved either laterally or medially, thus transferring weight only through the second and third metatarsal heads with the foot remaining in an unstable position during function.

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* Presented before the 348th meeting of the Academy of Podiatry at Hunter College, N. Y. C.

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Shoe wear for this patient's biplane imbalance was typical as there was an absence of wear along the medial and lateral borders since there is no weight transfer through these areas. Instead, the shoe sole showed heavy wear under the 2nd, 3rd and 4th metatarsal areas.

Fig. 2 Shows the device removed from the model. (Note—the medial and lateral pads are 1/8" thick while the center pad is 1/16".)

The appliance was fabricated with the assistance of an appliance laboratory‡ and a brief outline of the procedure follows:

The impression is taken with Specialist Splints®[1] all lesions having first been marked with indelible pencil:

1. Inner side of impression is coated with tincture of green soap acting as the separating medium.
2. Excresence is re-marked with indelible pencil.
3. Dental stone is mixed to a heavy consistency and the impression is filled. Dental stone is used because there is less shrinkage than with plaster of paris.
4. After model is set, the impression is removed and sanded smooth with 00 sandpaper, removing wrinkles, etc.
5. Model is further smoothed by rubbing it with wet dental stone.
6. A protective pad is fabricated from sponge rubber.
7. Model is dipped in latex, allowing each coat to dry. Number of immersions depends upon thickness desired.
8. After several immersions, the protective pad is cemented in position and then immersed several more times.
9. Allow to dry thoroughly.
10. Powder and remove from cast. Powder inside of shield and trim to desired size.

A slight skin reaction was encountered by the patient due to her wearing rubber overshoes for several days producing excessive perspiration. To prevent recurrence of this, the device was lined with chamois. No further skin reaction has appeared.

‡ G. A. Kaegi, D.S.C., Liquid Rubber Appliance Laboratory

®[1] Johnson and Johnson

Summary:

A case is described in which a combination forefoot latex appliance worn directly on the foot has proven more effective than previous appliances. The appliance has removed pressure from a painful bursa overlying the hallux, and dissipated pressure from a painful plantar neurofibrosum. It has compensated for the imbalance of the forefoot.

1900 Albemarle Rd.

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THE MUSCULOSKELETAL TENSION SYNDROME

W. A. PEPIN, D.S.C.
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THE musculoskeletal tension syndrome as the name implies is a complex of symptoms affecting the musculoskeletal system. The recognition and care of this serious health problem is within the field of podiatry-chiropody.

The evolution of the foot is a prerequisite to the study of this problem and the reader is referred to Dr. Dudley Morton's book "The Human Foot" for a more complete picture. Briefly however, we can review[1] the evolutionary development of the foot.

Water was the birthplace of organic life and the single cell preceded all forms. This single cell had no ability for locomotion and depended entirely upon the water currents for movement and existence. After vast expanses of time and because of adaptation, multi-cellular forms developed with some ability to control their movements but water was a necessary environment to reduce mechanical stress.

Among the later multi-cellular forms was the primitive chordate—the ancestor of all vertebrates. Further adaptative changes can be seen in the development of the lobe-fin fishes. The primitive amphibian shows the first indication of a limb designed to counteract gravity and is the starting point in terrestrial development of vertebrate feet, at this stage gravity first impresses its stresses on the body and limbs. It will be noted that even in this early stage changes in the foot all tended towards a more rigid type of structure to combat gravity. The development of the reptile from the amphibian saw a change from a lateral extension of the leg and foot to one more underneath, causing the body to be elevated from the ground and propulsion is accomplished with greater efficiency.

Primitive mammal showed a great improvement in foot mechanics over the primitive reptile. Tarsal bones were locked more firmly and the talus developed a trochlear surface permitting a mortiselike articulation with the leg bones. A neck and head for the talus was also developed and made for a more secure joint with the navicular.

Two things of importance occurred in the pre-human foot—

1. Dropping of the heel to the ground
2. Change from a grasping organ to a lever for lifting and propelling body weight against the force of gravity

About this time came one of the most important changes in the evolution of the human foot. This was the change in its leverage axis which came about through the decreasing divergence of the hallux. Since the foot's function as an organ of locomotion is purely mechanical in nature, this shifting of the leverage axis was necessary for increased efficiency.

In comparing the pre-human with the human foot we find that the former was a flexible and muscular grasping organ. The heel had become adapted to weight bearing. The inner border was depressed because of weight being concentrated on that side. The leverage axis has shifted to between the second metatarsal and the divergent first which had become lengthened. The metatarsal bones were rotating to meet the ground flatly producing better leverage action.

By comparison the human foot is a rigid structure in which the musculature has been replaced by ligamentous tissue. The grasping ability of the foot per se has been lost. The heel is massive in size, the inner border of the foot presents a permanent longitudinal arch. The leverage axis while still between the first and second metatarsals runs more directly forward by rea-

son of the proximity of these bones making this a specialized organ for terrestrial leverage.

Further evidence of the importance of leverage action in the foot comes in the comparison of the sub-astragular joints of the gorilla, neanderthal man and modern man. In the former there is a distinct anterior medial slant to the superior surface of the calcaneus and sustentaculum tali. It becomes more modified in the neanderthal man and in the human foot it becomes almost level.

This brief evolutionary background points out that development of the human foot has constantly been in the direction of a more rigid lever. A review of the ankle and knee joints will reveal how important this leverage action is if the body is to be maintained in its best postural position at rest and in motion. Failure of the foot to maintain a rigid ligamentous and bony antero-posterior alignment will cause a medial deviation of the longitudinal arch in many cases. This position then retrogresses towards the gorilloid type of foot with resulting inefficiency. This medial deviation in the human foot causes the leg and the thigh to be rotated inward at the hip. This follows because the ankle and knee being ginglynus joints have limited lateral movement. The change brought about by this rotation of the femur causes a tilting of the pelvis. Since the attitude of the spine is affected by the position of the pelvis one can easily visualize the postural changes that take place in the body's superstructure. These changes will be directly proportional to the amount of inward deviation of the foot. Chiropodists have long realized the effect of stresses and strains upon the ligaments, joints and muscles of an unbalanced foot. When the body is unbalanced there can occur at other parts a similar inflammatory reaction. It is this group of inflammatory reactions that I term the musculoskeletal tension syndrome.

The symptoms most commonly seen in this complex are the usual foot problems so familiar to all of us. In addition one or more of the following will be present:

1. Leg cramps. 2. Knee pain. 3. Pain in the thigh or hip. 4. Low back involvement. 5. Pain and tenseness between the scapulae. 6. Bursitis of the shoulder. 7. Stiffness of the hands and fingers. 8. Headaches. 9. Stomach distress. 10. Fatigue.

That the orthopedic surgeon is rapidly becoming aware of this important field can be readily seen in an article by Hauser[2] in which he describes the foot, leg and back problems. Jones[3] elaborates on some of the other symptoms.

As chiropodists, we too must recognize this complex.

Summary

1. Evolutionally the foot has become more and more a rigid type structure. 2. Failure of evolutionary development complicated by environment causes symptoms in various parts of the body. 3. Restoring normal leverage function of the foot corrects this problem. 4. Orthopedic surgeons are beginning to recognize these problems. Chiropodists generally have more background and training in this area and should utilize this knowledge more frequently.

Acknowledgements

I want to express my appreciation to:

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Dr. George Pournelle for his kindness in offering me an opportunity for close examination of the apes at the San Diego Zoo.

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WHERE DO YOUR PATIENTS COME FROM?

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It is of interest to note where a doctor's patients come from and it is not difficult to ascertain. After five years of practice, this author had his assistant go through the files to determine the source of patient referrals. Categories listed are:

Direct Patient Referral: Patients that were treated as a direct result of another person's recommendation. This may be either a previously treated patient or a patient being treated actively at the time. I find that patient referrals come most frequently from people who have been in the office within the past three months.

Professional Referrals: This includes recommendations from any medical source; physicians, dentists, osteopaths, chiropractors, nurses, convalescent home owners. The bulk is by far made up of physicians.

Personal Contact: This would include personal friends and acquaintances; people you have business dealings with; people you know through clubs and organizations; people in groups before whom you have had occasion to speak, relatives, etc.

Sign: This would depend most upon location. Certainly if the sign is small or is inconspicuous or the office is on a little-travelled street or in an office building with merely a listing on the directory, the sign would not account for much. Those people who answered, "I knew you were there!" when asked the source of referral were listed under sign in the accompanying Table I.

Telephone Directory: Too many people pick their chiropodist from the yellow pages of the classified directory. This may be tied up with location, i.e., if the podiatry office is near to their home, or if there is convenient parking in that area, or if bus transportation is readily available. Also, if the office is in a medical building it may impress the patient more.

Announcements: Upon opening practice, about 2,000 announcements were sent out by this practitioner. At the time, these referrals made up the bulk of the patients treated, but when stacked up against all patients treated in almost five years of practice, they amount to almost nothing.

Newspaper: Items of newsy interest or the picture of a doctor connected with community service or chiropody activity do not account for much patient response. The old patients like to see their foot doctor in the paper but it does not provide many new patient contacts.

Inherited Patients, Old Patients Retained as the Result of Buying a Practice: I bought my practice when it was established for only one year from a part-time practitioner. Out of a possible 50 patients, 17 have stayed with the practice. This doesn't account for very many of the over-all total.

Active and Inactive: My active files consist of any patient who has been treated by me one or more times in the current year. The accompanying table covers the immediate past year.

The inactive file includes people who have been treated in the previous three and a half years. It does not include the "dead" file of patients passed away, patients moved away, known "dead-beats," patients you know you antagonized, patients who antagonized you, patients incurably ill.

By far we see that the podiatrist's best friend is a satisfied patient. This patient not only uses his doctor's services, but also refers new people to the practice, so that it will grow as an arithmetic or geometric progression.

Physicians refer too few patients. This is probably due to the fact that the physi-

TABLE I

Source	Active	%	Inactive	%	Total	%
Direct Patient Referral	217	52.5	480	53.4	697	53.1
Professional Referral	46	11.1	73	8.1	129	9.1
Personal Contact	27	6.5	89	9.8	116	8.9
Sign	35	8.5	71	7.8	106	8.0
Telephone Directory	79	19.4	151	16.6	230	17.5
Announcements	1	.25	17	1.8	18	1.3
Newspaper	2	.5	6	.4	8	.5
Inherited Patients ...	5	1.1	12	1.3	17	1.2
	412	99.85	899	99.2	1,311	99.6

cian feels qualified to treat many foot problems as he treats other problems of the body. Too frequently he is completely unaware of what superior service we can furnish his foot-suffering patient.

When the profession of podiatry becomes as well known as dentistry, patients will not indiscriminately pick one from the pages of the telephone directory. As the general public and especially our friends in medicine, become better informed as to the quality and high degree of our skills, the sign, the phone book and the personal contact will account for a much smaller source of patient referrals. The professional referral and the patient referral will rapidly increase, accounting for the major percentage of our patients and the average practice will be more gratifying.

1521 Summer St.

ASSOCIATED FINDINGS IN INEQUALITY IN LEG LENGTHS

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WHILE working as Chiropodist at the Fort Polk Army Hospital, Fort Polk, Louisiana; it became apparent that many unilateral foot complaints could not be relegated to the normal sequence of etiological factors usually considered in these conditions. It was also observed while watching the marching of columns of men on a Parade Field, that many gaits, though normal in themselves, showed a marked variation in comparison with others, and norms for motions of the back, spine and shoulders could not be established.

Realizing that these individuals had been pronounced physically sound, it seemed apparent that a large percentage of these gaits could be explained by an inequality of the limbs of the marcher, which was apparently unnoticed on initial entrance examination.

Measurements for shortages are said by some authors to be of little value, since if a measurement from the superior iliac spine to the medical malleolus is taken for example, the same measurement may change if the leg is pulled or the patient is asked to extend the limb forcibly. Methods for measurements of the extremities have been used for years though, with their basic value being a clinical finding.

Having the opportunity to practice chiropody in the U. S. Army, an attempt was made to measure as many of these individuals as possible in a Chart Survey System, in which the patient was informed that measurements had nothing to do with army routine. As an independent project the following information was compiled in regards to shortages, with an effort made to correlate the shortage with various foot

TABLE I **MEASUREMENT — Survey Chart**

Case No.	Present Foot Conditions	Foot	Ant. Iliac Sp. to Int. Malleolus	Ant. Iliac Sp. to Ext. Malleolus	Ant. Iliac Sp. to Patella	Head of Fibula to Ext. Malleolus	Umbilicus to Int. Malleolus	Umbilicus to Ext. Malleolus
1	Pain — Right Knee, Hip and Arch	Right	38¼"	38⅜"	20¼"	16½"	41"	43¼"
		Left	38"	38¾"	20"	17⅛"	41½"	43¾"
2	Congenital Pes Planus and Hammer Toes	Right	36½"	37¼"	18¾"	16"	39"	40¼"
		Left	36½"	37¼"	18¾"	16"	39¼"	40¼"
3	Hyperhidrosis and Bruised Left Heel	Right	36¼"	37"	18½"	16"	39¾"	40¾"
		Left	36½"	37½"	19"	16½"	40"	41"
4	Verruca—2nd Meta. Hd. — Right Foot	Right	35½"	36½"	18½"	15¾"	39¼"	40½"
		Left	36"	37½"	19"	15¾"	39¾"	41"
5	Pes Planus —3° more Severe Left Foot	Right	38½"	40"	20"	17¼"	42"	44½"
		Left	39"	39½"	20¼"	17½"	42¼"	44"
6	Hyperhidrosis Left Ankle Sprained 3 X's	Right	39"	40⅛"	20"	17¼"	42"	43⅝"
		Left	39½"	40⅜"	20¼"	17⅝"	42¼"	43¼"
7	Hyperhidrosis	Right	39½"	40¼"	20"	17½"	42½"	43¼"
		Left	39⅜"	40"	19¾"	17½"	42½"	43½"
8	Hyperhidrosis and Injury to Right Knee	Right	37"	37¾"	19¼"	16"	40½"	41⅞"
		Left	36¾"	37⅞"	19¼"	15¾"	40½"	41¾"
9	Weak Foot–Rt. Foot more Severe Associated U. U.	Right	35½"	36½"	18½"	16"	37¼"	38¾"
		Left	35¾"	37¼"	18¾"	16"	37"	38½"
10	Arch Pains and Heloma Dur. Lt.	Right	40¾"	41¾"	21¾"	18¼"	44¼"	45¾"
		Left	41"	42"	21½"	18¼"	44¾"	45¾"
11	Hyperhidrosis + No. 10	Right	37¼"	37¾"	18¾"	17"	40½"	42¾"
		Left	37¼"	38"	18¾"	16¾"	40½"	42½"
12	Hyperhidrosis	Right	37¾"	38¾"	19½"	16½"	40⅜"	41½"
		Left	38"	38⅜"	19⅜"	16½"	40¼"	41⅜"
13	None	Right	36½"	37¾"	19¼"	15⅞"	38½"	40¼"
		Left	36⅜"	37⅜"	19¼"	15⅞"	38⅜"	40¼"
14	Pes Planus 3°	Right	34½"	34¾"	17¾"	14⅜"	36½"	37⅞"
		Left	34½"	35"	18"	14¼"	36⅞"	37⅞"
15	Hyperhidrosis and Epidermophytosis	Right	36"	36⅞"	18¼"	16½"	40"	38¾"
		Left	36½"	37¼"	18½"	16¼"	40¼"	38½"
16	Hyperhidrosis & Mosaic Verruca Right Foot	Right	37"	38"	19¼"	16½"	39¼"	40¼"
		Left	37¼"	38⅛"	19½"	16¼"	39⅛"	40¼"
17	Hyperhidrosis Slight Pain in Long. Arches	Right	35½"	36½"	18"	15"	39"	40¼"
		Left	35⅜"	36¼"	18"	14⅜"	39"	40¼"
18	Tenosynovitis Right Heel — Hyperhidrosis	Right	34¾"	36¼"	18"	15¾"	37½"	39¼"
		Left	35⅛"	36¼"	18"	16"	37¾"	39⅛"
19	Callous Nail Groove Right Foot	Right	36¾"	36¾"	19"	15½"	37¾"	39⅛"
		Left	36"	36¼"	18¾"	15½"	37¾"	39⅛"
20	Bilateral Contracture of 5th Toes	Right	35½"	36⅜"	18½"	15⅞"	38½"	39¾"
		Left	35½"	36¼"	18"	16"	38⅝"	40"
21	Hyperhidrosis and Severe Pain Right Heel	Right	34¾"	35½"	17¾"	15⅜"	37⅜"	39⅛"
		Left	35"	35½"	18"	15⅜"	37¼"	39"
22	Cramps in Both Arch Areas	Right	40"	41"	20¼"	18⅜"	43⅛"	44½"
		Left	39¾"	40¾"	20½"	17⅞"	43⅛"	44¼"
23	Weak Foot and Pain in Heels	Right	36¾"	38¼"	19¼"	16¼"	40"	41⅝"
		Left	37"	38½"	19½"	16⅜"	40"	41½"
24	None	Right	40½"	41⅜"	20½"	17⅝"	43⅜"	44⅞"
		Left	40¼"	41⅛"	20"	17½"	43⅛"	45"
25	None	Right	38⅜"	39¾"	20½"	17½"	41½"	43⅜"
		Left	38⅞"	39⅜"	20¼"	17¾"	42"	43⅜"
26	Frequent Sprain Left Ankle	Right	38"	38¾"	19¼"	16"	40"	41⅞"
		Left	37¾"	37⅞"	19½"	16½"	40¼"	41⅞"
27	Hyperhidrosis	Right	38¾"	39¼"	20⅞"	16¼"	41¼"	42⅝"
		Left	38⅝"	39¾"	20½"	16¼"	41⅜"	42¼"
28	Hyperhidrosis and Weak Foot	Right	40⅜"	42⅜"	20⅝"	19"	44½"	46¼"
		Left	41⅜"	42¾"	20⅝"	19¼"	44¾"	46¾"

TABLE I (Cont.) MEASUREMENT — Survey Chart

Case No.	Present Foot Conditions	Foot	Ant. Iliac Sp. to Int. Malleolus	Ant. Iliac Sp. to Ext. Malleolus	Ant. Iliac Sp. to Patella	Head of Fibula to Ext. Malleolus	Umbilicus to Int. Malleolus	Umbilicus to Ext. Malleolus
29	Pes Planus and Heel Pain and Hyperhidrosis	Right	36⅝"	37¼"	18¾"	15¾"	39"	40½"
		Left	36¾"	37¼"	18⅞"	16"	39½"	40⅝"
30	None	Right	36⅜"	37⅜"	18¾"	15⅝"	39¾"	40½"
		Left	36⅝"	37¾"	18¾"	15⅞"	40"	40½"
31	Weak Foot and Hyperhidrosis	Right	34½"	35½"	17½"	15"	38¾"	39"
		Left	34¼"	35¼"	17⅓"	14¾"	38¾"	39¼"
32	Hyperhidrosis	Right	35⅜"	36⅜"	18⅛"	14⅞"	39¼"	41⅜"
		Left	35⅜"	37"	18½"	14⅞"	39¼"	40⅞"
33	Pain in Ball of Foot Bilat. Hyperhidrosis	Right	38⅝"	39⅜"	19½"	17½"	42¼"	43¾"
		Left	38⅝"	39¾"	19¾"	17⅛"	42⅜"	43¾"
34	Weak Foot and Hyperhidrosis	Right	35½"	36¾"	18"	16¼"	38"	39⅜"
		Left	35½"	37"	18½"	16¼"	38½"	39½"
35	None	Right	37¾"	38"	19"	16"	39½"	41¾"
		Left	37⅜"	37½"	19"	16⅜"	40"	41¾"
36	Contracted Toes and Hyperhidrosis	Right	37¼"	38¼"	19"	16"	39⅜"	41¾"
		Left	37¼"	38⅜"	19¼"	16⅜"	39¾"	41½"
37	Hyperhidrosis	Right	35¾"	36¾"	18"	16"	38¼"	39¼"
		Left	36"	36½"	18½"	16"	38½"	39½"
38	Traumatic Chip of Right Ankle	Right	35½"	36¾"	18"	15¾"	39¼"	40¾"
		Left	36"	37¼"	18¼"	16¼"	39½"	40¾"
39	Pain in Long. Arches	Right	38¼"	39¾"	19¼"	16¾"	41¼"	42⅜"
		Left	38½"	39"	19½"	17⅛"	41¾"	42⅜"
40	Painful 4th M. H. Left Foot	Right	35"	36"	18¼"	16"	38¼"	40½"
		Left	35⅜"	36⅛"	18½"	16"	38"	40"

faults, via a questionnaire which accompanied the examination.

Shortages, as previously mentioned, are nothing new on the market, they have been discussed for years, Dr. William M. Scholl[1] in his book, The Human Foot—Anatomy Deformities and Treatment, back in 1915, said of a short limb. . . .

> Persons with a short limb caused by fracture, hip disease, or other injury usually throw more weight and pressure on one foot, producing excessive strain. . . .

However, we may define shortages as any inequality in the lengths of the extremities of an individual. While we may list the etiological factors for these inequalities in length of limbs as being—congenital, due to trauma to the skeletal system, whereby in the normal process of healing there is a change in the quantity of osseous material. Also of importance in this discussion is a review of Wolff's Law, which comes into play in the cases of shortening due to gross trauma to the skeletal system of the individual.

> Wolff's Law. Changes in the Form and Function of bones are accompanied by changes in their internal architecture according to mathematical laws. The shape of the bone is the effect of function. The function affects the internal architecture as well as the external contour.

Or we may relegate these shortages as being due to[2] faults in normal growth patterns between normal epiphysis and diaphysis configuration. It is believed that the latter of these is the greatest cause for differentiation, since very seldom in our existence can we draw attention to any two items being identically alike, for production of osseous material and bone pattern would have to be as one, in both extremities.

Insufficiencies in the gluteal muscles to

co-ordinate properly may be the cause of difficulty resulting in limp and imposition of the pelvis, with resultant pelvic tilt. Dr. Lewis Cozen[3] in his book, Office Orthopedics, while discussing the topic of "Slipped Femoral Capital Epiphysis," brings up this point in relation to limps which are characterized by the appearance of the Trendelenburg sign, or a noticeable tilt in the pelvis, when the patient places his weight on one limb and raises the other off the ground.

> The Trendelenburg sign is usually positive. . . . This sign denotes insufficiency of the abductors of the hip joint. As the patient stands on the affected leg with the normal leg flexed to bear weight, the pelvis will sink slightly on the affected side. The hip is thus seen to be somewhat unstable. Such instability is present in all affections of the hip that result in either a weakness or relative insufficiency of the gluteus medius muscle of the hip joint.

Thus we can assume that some of these marching figures may have had a fracture of some portion of the lower extremity at some time in their life. There may also have been a few who were plagued with insufficiencies in gluteal muscles, and many other etiological points not brought forth in a paper of this length.

There is still another factor to consider in our rationalizing the inproportion of the body and trunk motions of soldiers marching on a parade field. This deals with the relative length or total heights of the individuals marching. For as Dudley Morton[4] points out . . .

> the height and leg length of the individual place a definite limit upon the length of the step; . . . Length of a stride can be increased by pelvic rotation — a common factor in walking but one that is resorted to chiefly in a forced gait.

It is not uncommon to find some deviation in the lengths of the limbs themselves,[5] since . . .

> It is common to find variations from 3/16″ to 6/16″ between right and left legs. Normally they cause few symptoms; however, the possibility as a causative factor of chronic low backache should not be ruled out. In cases where the difference is greater than 6/16″ symptoms are common, and some form of equalizing the length of the two limbs is indicated. In these cases the pelvis, on the side of the shorter leg, is forced downward and the spinal column above the pelvis tilts toward the short side. Higher up, the spine is scoliosed towards the longer leg.

Thus shortages[6] are not something rare and unusual, and with this knowledge we set out by a survey system to find out whether there was any correlation with what shortages would be found, and present foot conditions which might exist as well.

A system of measurement as described by Milton R. Lewis[6] in his book, Chiropodial Pediatrics, was followed with added measurements made.

> For an exact determination, the patient must remove his clothing and lie flat on his back. A steel tape measure is held at the tip of the anterior-superior iliac spine on one end and the length to the tip of the medial malleolus is computed. The exact measurement of the other extremity is also taken. Any variation in the two figures is the actual amount of difference. X-ray pictures of the pelvis should be taken to corroborate any clinical findings.

However, the availability of the use of the x-ray facilities was unobtainable, thus the results of these measurements should be interpreted as clinical findings.

Statistical Evaluation

It should be noted that only one of the first two columns of figures on the measurement survey charts may be necessary in evaluation for clinical data in determining

TABLE II — QUESTIONNAIRE — Survey Chart

CASE NO.	OCCUPATION	STANDING VIEW		*ASSOCIATED WITH LIMBS PREVIOUS INJURIES	MANUAL DEXTERITY	AGE	WT. HT.	STANDING DIFF. IN LENGTH ARMS	PATIENTS INITIALS
		PELVIC TILT	SHOULDERS						
1	Civilian—Clergyman Service—X-Ray Tech.	Slight to Left	None	None	Right	21	190 5′11″	None	Sp-3 D. W.
2	Civilian—Gas Lab. Tech. Service—Radio Repair Man	None	to Right	(Pt. unable to say which leg) Broken Leg Age 7	Right	20	180 5′11″	None	Sp-3 J. L.
3	Civilian—Electrician Service—Mortarman	None	to Right	None	Right	24	160 5′8″	Left Hd. Longer	Sp-3 B. C.
4	Civilian—Student Service—Aircraft Mech.	None	None	None	Right	19	145 5′9″	Left Hd. Longer	Sp-3 R. D.
5	Civilian—? (Sedentary) Service—Shipping Clerk	None	to Right	None	Left	22	190 6′	None	Pvt-2 J. F.
6	Civilian—Student Service—Radioman	to Right	None	Broken Pelvis 13 yrs. ago (Lt. Side)—Sprain Lt. Ank. 2X	Right	20	206 6′	Left Hd. Longer	Sp-3 R. M.
7	Civilian—Student Service—Vet.	to Right	to Right	None	Either	24	150 6′	Left Hd. Longer	Sp-3 J. L.
8	Civilian—Student Service—Lab. Tech.	None	to Left	Rt. Knee Injured Age 12 Reinjured 3 Yrs. Ago	Right	24	160 5′7″	None	Sp-3 G. H.
9	Civilian—Pharmacist Service—Lab. Tech.	to Right	to Right	Varicose Veins Rt. Leg	Left	25	165 5′10″	None	Sp-3 J. D.
10	Civilian—Optometrist Service—Optometrist	None	Slight to Right	Laceration Below Rt. Knee	Right	24	202 6′2″	None	Pvt-2 S. S.
11	Civilian—Truck Driver Service—Truck Driver	to Left	Slight to Left	Lt. Ankle Sprained '56	Right	20	170 5′10″	Left Hd. Longer	Pfc. R. O.
12	Civilian—Student Service—Lab. Tech.	Slight to Right	None	Arthritis Both Knees More Pronounced in Lt.	Right	25	145 5′10″	None	Sp-2 F. D.
13	Civilian—Student Service—Lab. Tech.	Slight to Right	to Right	None	Right	23	145 5′10″	Left Hd. Longer	Sp-2 B. S.
14	Civilian—Student Service—Disp. Tech.	Slight to Right	None	Severe Sprains Both Ank. Ruptured Bursa Rt. Knee	Right	26	143 5′5½″	None	Sp-3 D. Mc.
15	Civilian—Dump Truck Driver Service—Gunner	Slight to Right	to Right	None	Right	19	145 5′5″	None	Sp-3 O. B.
16	Civilian—Farmer Service—Eng.	None	None	Mild Sprain Rt. Ank.	Right	20	149 5′7″	Left Longer	Pfc. J. S.
17	Civilian—Carpenter Service—Tanker	Slight to Left	to Right	Sprain Lt. Ank. 3 X	Right	22	165 5′9″	None	Sp-3 W. R.
18	Civilian—Truck Driver Service—Teletype Op.	to Right	Slight to Right	None	Right	26	182 5′8″	None	Sp-3 U. M.
19	Civilian—Student Service—Tech.	Slight to Right	Slight to Right	None	Right	19	135 5′6″	None	Sp-3 D. J.
20	Civilian—Student Service—Photographer	Slight to Left	Slight to Left	Rt. Ankle Sprained Several Times	Right	17	140 5′6″	Rt. Longer	Pvt-2 J. S.

TABLE II (Cont.) **QUESTIONNAIRE — Survey Chart**

CASE# NO.	OCCUPATION	STANDING VIEW		*ASSOCIATED WITH LIMBS PREVIOUS INJURIES	MANUAL DEXTERITY	AGE	WT. HT.	STANDING DIFF. IN LENGTH ARMS	PATIENTS INITIALS
		PELVIC TILT	SHOULDERS						
21	Civilian—Pipe Fitter Service—Ration Breakdown Man	None	Slight to Left	Frequent Sprains Rt. Ankle	Right	23	125 5′6″	Lt. Longer	Pfc. D. C.
22	Civilian—Op. Eng. Service—Hvy. Eq. Op.	None	to Left	Injury to Lt. Gt. Toe	Right	23	170 6′3″	Rt. Longer	Pfc. E. S.
23	Civilian—Student Service—Hq./qt. Comm.	None	None	Frequent Sprains Rt. Ankle	Right	19	170 5′10″	Lt. Longer	Pvt. R. P.
24	Civilian—Printer Service—Printer	None	None	Wk. Lt. Knee 5 Yrs. Duration	Right	23	149 6′3″	None	Pvt. H. W.
25	Civilian—Student Service—Med. Tech.	to Right	Slight to Right	Synovitis Rt. Knee Due to Accident	Right	22	164 6′2″	None	Pvt. J. W.
26	Civilian—Roofer Service—Supply Man	to Right	to Right	Frequent Sprains Left Ankle	Right	23	190 5′11″	Rt. Longer	Pvt. R. B.
27	Civilian—Student Service—Radar Op.	None	None	Frequent Sprains Left Ankle	Left	20	170 6′	Rt. Longer	Sp-3 P. C.
28	Civilian—Steel Worker Service—Handle Sig. Supplies	to Left	Slight to Left	None	Right	20	165 6′5″	None	Sp-3 R. S.
29	Civilian—Student Service—Personnel Clerk	Slight to Left	Slight to Left	Sprains of Both Anks. Noted	Right	22	160 5′9″	Lt. Longer	Pvt. R. O.
30	Civilian—Student Service—Truck Driver	Slight to Left	Slight to Left	Frequent Sprains Left Ankle	Right	21	147 5′7″	Lt. Longer	Pfc. L. W.
31	Civilian—Student Service—Fix Radios	to Left	to Left	None	Left	19	140 5′6″	Rt. Longer	Pfc. R. M.
32	Civilian—Laborer Service—Supply Man	Slight to Left	to Right	Compound Fracture Rt. Ank.	Right	18	160 5′9″	Rt. Longer	Pvt. D. F.
33	Civilian—Student Service—Ambulance Driver	None	to Right	Shotgun Wound Left Knee Rt. Ankle Sprained Freq.	Right	22	181 6′1″	Rt. Longer	Pfc. L. S.
34	Civilian—Welder Service—Welder	to Right	to Right	None	Right	26	172 5′8″	Lt. Longer	Pfc. J. S.
35	Civilian—Student Service—Photographer	None	to Right	Broken Rt. Leg—Duration-?— Sprains of Rt. Ankle Since	Right	23	145 5′10″	Lt. Longer	Pvt. R. S.
36	Civilian—Factory Worker Service—Engineer	None	to Right	None	Right	23	160 5′9″	Lt. Longer	Pvt. D. V.
37	Civilian—Student Service—Art. Repair	to Left	to Left	Frequent Sprains Rt. Ankle	Right	17	140 5′8″	Rt. Longer	Sp-3 K. M.
38	Civilian—Draftsman Service—Radio Operator	None	None	Chip Fracture Rt. Ankle	Right	22	171 5′10″	Lt. Longer	Pfc. J. S.
39	Civilian—Cook Service—Engineer	to Right	to Right	Chip Fracture Rt. Foot — ?	Right	19	158 6′	Lt. Longer	Pfc. T. C.
40	Civilian—Elec. Service—Artillery Man	to Right	to Right	None	Right	19	160 5′11″	Lt. Longer	Pfc. J. E.

a shortage. However, in an effort to obtain some sort of check system, both measurements were taken, and are included in the tabulation figures via a "mean average." The "Added Measurement" figures are given for benefit of the reader.

Hyperhidrosis

It was found that 50% of the individuals measured disclosed a complaint of excessively sweating feet, realizing that a nociceptive response of the body in cases of overt stress might produce this condition,

TABLE III

Tabulation of Individual Shortage*

1.	Right Leg Longer 2/16"	21.	Left Leg Longer 2/16"
2.	Zero Diff. In Measurement	22.	Right Leg Longer 4/16"
3.	Left Leg Longer 6/16"	23.	Left Leg Longer 4/16"
4.	Left Leg Longer 12/16"	24.	Right Leg Longer 4/16"
5.	Zero Diff. In Measurement	25.	Right Leg Longer 1/16"
6.	Left Leg Longer 6/16"	26.	Right Leg Longer 9/16"
7.	Right Leg Longer 3/16"	27.	Left Leg Longer 3/16"
8.	Right Leg Longer 1/16"	28.	Left Leg Longer 11/16"
9.	Left Leg Longer 8/16"	29.	Left Leg Longer 1/16"
10.	Left Leg Longer 6/16"	30.	Left Leg Longer 5/16"
11.	Left Leg Longer 2/16"	31.	Right Leg Longer 4/16"
12.	Left Leg Longer 1/16"	32.	Left Leg Longer 4/16"
13.	Right Leg Longer 2/16"	33.	Left Leg Longer 2/16"
14.	Left Leg Longer 2/16"	34.	Left Leg Longer 2/16"
15.	Left Leg Longer 7/16"	35.	Right Leg Longer 4/16"
16.	Left Leg Longer 3/16"	36.	Left Leg Longer 1/16"
17.	Right Leg Longer 3/16"	37.	Zero Diff. In Measurement
18.	Left Leg Longer 3/16"	38.	Left Leg Longer 8/16"
19.	Right Leg Longer 10/16"	39.	Right Leg Longer 1/16"
20.	Right Leg Longer 1/16"	40.	Left Leg Longer 6/16"

*All measurements have been converted to sixteenths.

Evaluation of the above table shows that 92.5% of the men measured confirmed the presence of a shortage. Of this number 35% were found to have a longer right leg with an average value of 3/16". While the remaining 65% showed a 4/16" increase in the length of the left leg. With only 6 cases exceeding (15%) the 6/16" mark, said by Milton R. Lewis[6] to be in the realm of normality.

CORRELATION FINDINGS

In correlating the values of shortages with the various Foot Conditions listed on the Survey Charts taken, the following are the results.

and since a shortage would act as an overt stress, the averages here were computed, and it was found that the average shortage for this complaint was 4/16".

However, of these 20 men 83% had simultaneous other complaints, with only 17% complaining of just Hyperhidrosis, the average shortage for these men though was even less—3/16".

Verruca

Only 5% of the men measured complained of an occurrence of warts, coincidentally all on the right feet. Of this 5% the average shortage was on the Right, with the left foot exceeding in length by 7/16", a little above average.

(Continued on Page 456)

CLINICALLY SPEAKING

A place for the more informal presentation of reminders, suggestions, notes, observations and technics of value in office practice. Your contributions of short manuscripts or illustrative case histories will determine this section's usefulness.

IMPROVEMENT OF COLLATERAL CIRCULATION BY ULTRASOUND

A Case Report

HOWELL SHERMAN, D.S.C.
Fair Lawn, N. J.

Mr. L. G., white, male, age 57, here on a visa from Holland, was first seen on November 4, 1957. He complained of excruciatingly painful toes on elevation of the right limb, extreme difficulty in sleeping (possible only in a sitting position), and of discoloration and infection of the 4th and 5th toes of the right foot. Duration of symptoms was five weeks.

TABLE I

Oscillographic Summary: Nov. 4, 1957

Area	Reading in millimeters Right	Left	Pressure at optimum reading
Anterior osteofacial compartment	2.3	3.6	120
Anterior of ankle	2.2	3.5	120
Dorsum of the foot	0.5	0.9	100
Posterior osteofacial compartment	3.0	4.0	120
Posterior of ankle	3.0	3.1	130
Plantar of the foot	0.5	0.3	100

Previous treatment consisted of antibiotic therapy and hot soaks, under direction of his attending physician. The soaks seemed to increase the pain and could not be tolerated by the patient.

Patient is a retired police officer and related a history of lowered blood pressure, kidney stones, bronchitis, stomach ulcers, and fracture of the cuboid of the right foot. He has been a heavy smoker for 45 years.

Examination disclosed a gangrenous process, involving the two lateral toes of the right foot. Affected area extended from the middle of the proximal phalanx of the 5th, and involved the distal portion of the 4th. The tissues immediately proximal to the gangrenous areas were cyanotic. Several digits, including the affected toes, exhibited mycotic nails. The gangrene was classified as the dry type. No cultures were made to determine what micro-organisms were present in the affected areas.

Generally the limbs revealed several areas of brown pigmentation, and a pitting edema, bilateral, at the lateral malleoli. Patient stated the swelling had occurred frequently over many years. Patellar and ankle reflexes were absent while the plantar reflexes were hyperactive. Vibratory perception was markedly diminished to absent at the left medial malleolus and at the 5th toes of both feet. The toe areas showed a disturbance of the sharp and dull, hot and cold sensory reception.

Oscillographic studies revealed very poor circulation (See Table I).

Urinalysis was negative for blood, sugar, acetone and albumin.

X-ray showed no marked changes except general demineralization.

Diagnosis: Gangrene of the 4th and 5th toes, right foot, secondary to a circulatory insufficiency of the right extremity.

Treatment: Antibiotic therapy was continued, along with azochloramine wet dress-

ings. Ultrasonic treatment was instituted immediately. Several minutes were given at low frequency, ½ w. per cm^2 in lukewarm water. This was intolerable, so ultrasound was administered by direct contact (oil). The area proximal to the gangrenous portion, plantar of metatarsal heads to sulcus, was treated at 2.5 watts per cm^2 for approximately 20 minutes. The transducer was kept cool by dipping into cold water.

All ultrasonic sessions were continued until a cramping sensation occurred. The patient was greatly relieved of pain after treatments and the proximal cyanosis disappeared for several hours. Treatments were given daily for 11 days to pain tolerance. Following this series, the proximal cyanotic area did not reappear, the fourth toe lesion was almost completely healed, and the patient was now able to lie in bed with headboard elevation. The 5th toe was still infected, very sensitive to touch, and painful when elevated for too long a period of time. Treatments were continued five times weekly, the affected area being approached as closely as possible with the transducer. In several instances the ultrasonic head was applied directly to the affected area.

On December 21, a flushing of the toes occurred, following treatment. The patient also stated that he could now sleep in a reclining position. At this point the edema was no longer present in the treated foot, but had actually increased in the untreated limb. Arlidin®[1] tablets were prescribed and the patient was instructed to walk 10 minutes each hour. Several days later the lesion on the 5th toe showed signs of traumatic breakdown. Walking was discontinued. Treatment was also instituted on the edematous left foot and leg.

By January 6th, the lesions were completely healed, with complete absence of pain on elevation. Skin coloring approached normal. Antibiotic therapy was discontinued and patient was instructed to walk as much as possible. Ultrasonic treatments were continued at three day intervals.

A final examination on February 5th, prior to patient's departure for Holland, revealed the following: Patellar reflex—perceptible, bilateral. Response to sharp and dull stimuli was normal, bilaterally. Ankle reflex—perceptible, bilateral. Still some loss of perception on the digits to hot and cold. Plantar reflex—slightly hyperactive. Vibratory perception was normal. There was a hypersensitivity to vibration in the 4th and 5th toes of the right foot as compared to those of the left foot. Mycotic nails of the 4th and 5th toes of the right foot had been replaced by healthy nail. Mycosis of the nails of the left foot persisted. Edema was absent bilaterally. There were no basic changes in oscillographic readings, but an apparent over-all improvement of collateral circulation had been achieved. Patient had a general feeling of well-being.

23-55 Fair Lawn Ave.

CALCINOSIS INTERSTITIALIS

A Case Report

EUGENE R. FLAXMAN, D.S.C.
West Hartford, Conn.

Chief Complaint

A tall thin eighteen-year-old female stated that approximately two and a half months ago she felt a sharp pain in the left first toe joint while walking. It was more severe when wearing high heel shoes.

History of Present Illness

The patient stated that there was no accident or injury to the left foot, and that the condition came on gradually. It was described as a sharp pain in her left bunion. The pain increased in intensity and severity for three months, and it was most uncom-

®[1] Arlington-Funk Laboratories

fortable when the foot was plantar flexed on weight bearing The patient had consulted her family physician at the time of the initial discomfort. When the pain persisted following repeated palliative care by adhesive dressings over the area, she was referred to this office for consultation and evaluation of the condition.

Past Medical History

The patient cannot remember having any previous episodes similar to this one, and her past medical history is non-contributory.

Physical Examination

The left foot is characterized by an incipient bunion in which the hallux is not deviated laterally. The medial aspect of the first metatarsal head is prominent, but with no evidence of rubbing or irritation from a shoe. There are no excrescences present. Hypermobility of the first segment bilateral is apparent and a lateral imbalance of moderate degree is evidenced while walking. A sharp lancinating pain was felt when pressure was applied over the bunion joint at the medial aspect.

X-Ray Examination

A dorso-plantar projection of the left foot revealed a calcium deposit at the medial aspect of the head of the first metatarsal approximately six millimeters in diameter. It gave the appearance of a conglomeration of small supernumerary bones that are occasionally seen between the metatarsal and the phalangeal areas. Another single deposition of calcium appeared at the medial aspect of the base of the proximal phalanx of the third toe.

A medial oblique view showed small calcific bodies between the metatarsal shafts, and a lateral oblique view revealed a small deposit at the dorso-lateral aspect of the head of the first metatarsal and one at the dorso-medial aspect of the fifth proximal phalangeal base. There are no calcium deposits in the right foot.

Separation of the first cuneiform from the second cuneiform and medial base of the second metatarsal with superimposition of the metatarsal bases, bilateral, confirmed our impression of dorsal hypermobility of first metatarsal segment.

The bony structures visualized were unremarkable, with normal cortices and trabecular pattern throughout.

Impression

1. Calcinosis interstitialis of the left foot, and in all probability of the left leg. (Patient consulted orthopedic surgeon who concurred with diagnosis.) The calcium deposit causing subjective symptoms is located in the Abductor Hallucis tendon. The hypermobility of the first metatarsal segment of the left foot has caused the deposits to irritate the soft tissue in the area, initiating an adventitious bursa over the medial bony prominence of the first metatarsal head.

2. Incipient Mortons syndrome and hallux valgus, the left foot being more severe.

Treatment and Recommendations

1. Injection, into trigger area, of six milligrams Hydeltra-T.B.A. ®[1] under asepsis and anesthesia of area.

2. Balance therapy to relieve weight bearing at the site of the irritation, namely, the medio-plantar aspect of the head of the first metatarsal of the left foot.

3. Surgical removal of calcium deposit if palliative and simple methods fail to give permanent relief.

Presently the patient is asymptomatic following three corticosteroid injections accompanied by balance therapy.

309 North Main Street

®[1] Merck, Sharp & Dohme

LESSER TOE LATEX SHIELD MADE WITH TUBULAR GAUZE

MORTON POLOKOFF, D.S.C., F.A.S.C.R.*
Paterson, N. J.

General Uses: The two-way stretch tubular gauze permits easy forming of a toe cot or covering. By impregnation with latex, the shield is formed into an accurate dynamic mold of the digit. The lesion is protected with a felt aperture pad which is bonded to the tubular gauze with the liquid latex. This appliance is removable.

Materials and Equipment: One-sixteenth or one-eighth Polokoff felt, No. 1 Surgitube, Rubber Cement, Liquid Latex, Hot Air Blower, Powder.

Fabrication: Make a felt aperture pad, one-sixteenth or one-eighth inch depending on thickness required to protect heloma. Fasten it to the toe with rubber cement.

Paint with rubber cement the top of this pad and the complete skin area the shield is to cover (Fig. 1).

Cut a four inch length of No. 1 Surgitube (Fig. 2) and make a two inch longitudinal slit with scissors. Lay the uncut end over the pad and heloma as shown in (Fig. 3).

Involute the distal end of the Surgitube (Fig. 4). Work the material back so that there are no bulky wrinkles covering the nails (Fig. 5). Fasten the Surgitube to the base of the toe and adjoining foot with rubber cement (Fig. 6). Apply liquid latex over the complete shield (Fig. 7).

Use the hot air blower to hasten the drying. A second coat of latex is applied to give the shield more body. After drying the second coat, powder it well and cover with waxed paper to prevent any liquid latex that may squeeze out of the shield from adhering to the stocking. The shield is kept on until the patient returns, four to seven days later. Bathing is permitted.

Completing and Adjusting the Shield: Remove the shield by peeling it from the toe, turning it inside out. If, in "turning back" the shield, it is noticed that the felt pads are not securely bonded to the Surgitube, use adhesive tape to fasten it.

Mark, with a ball-point pen (or other transfer mark), a circle on the skin around the periphery of the heloma. Quickly place the shield over the toe and press to transfer the "mark" to the pad.

With the point of the curved scissors, trim out the complete circled area. Replace shield on toe, trimming as necessary, so that aperture exposes only the lesion. If pads in shield are not sufficiently thick, use "C" pads of moleskin and fasten them with liquid latex. An aperture for the distal end of nail may also be trimmed out (Fig. 8).

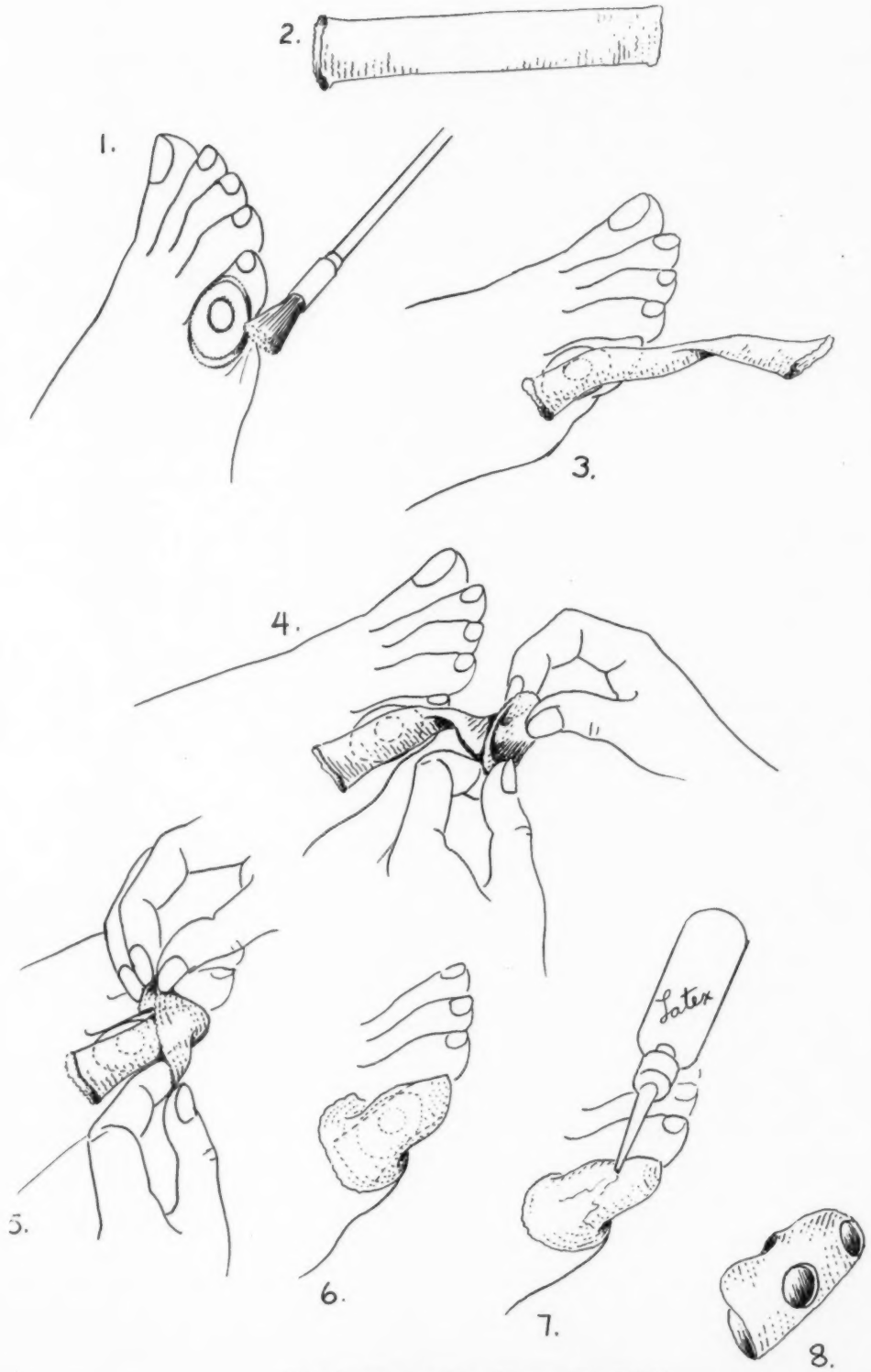
Powder the pad well. (A convenient method is to place a little powder in a plastic bag. Drop the shield inside, close the bag, and shake well.)

Instructions to Patients: "Powder the shield inside and out every morning. Wash shield with soap and water every two weeks. Report any discomfort or tear to the doctor immediately."

(Editor's Note: The author is preparing descriptions of other orthodigital appliances for publication, and is anxious to know if the illustrations and instructions are easily interpreted. Comments and suggestions would be appreciated, and should be sent to the author. A sample of this "Lesser Toe Latex Shield, Made With Tubular Gauze" will be cheerfully sent you by him to help with its fabrication.)

* Faculty, Temple University, School of Chiropody.

8 West Broadway



Steps in construction of Lesser Toe Shield

JOURNAL

OF THE

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PUBLISHED UNDER THE DIRECTION OF THE EXECUTIVE COUNCIL BY THE
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3301 Sixteenth Street, N.W., Washington 10, D. C.

A. RUBIN, D.S.C., Editor

Communications regarding manuscripts, news items, and editorial matters should be addressed to the Editor, those regarding advertising to the National Advertising Representative.

PRESIDENT'S MESSAGE

As I begin the duties of President of the American Podiatry Association, I feel highly honored, have a sense of humility, and desire sincerely to do all within my power to fulfill the demands of this high office.

I feel very confident that with hard work and the cooperation of all the members of our profession, much will be accomplished. However, I should like to remind you that true progress is evolution not revolution! This does not mean sitting waiting for someone else to do the work for us.

The past three years have been years of reorganization . . . building a solid, basic foundation. We have been in a state of flux, trying to fill the gap at our national office and digesting the constitutional changes made in our reorganization. The mechanical changes in the functioning of our organization were, in my opinion, long overdue. Naturally, there has been some lost motion but certainly not without the profession's benefiting from the errors. We have met these challenges in stride and, in addition, have made some significant improvements. I am going to point out the improvements to you because they are basic in our development as a profession.

We have set forth a policy which defines the aims and objectives of our profession. It is very important that the public, as well as the other professions, be aware of our policy. May I emphasize that we must adhere to our adopted policy.

During the past three years we have expanded and concentrated our efforts on Vocational Guidance. The Audio-Visual Committee has greatly broadened its work and is making outstanding progress in public education and interprofessional relations. I am sure that you are justly proud of the accomplishments of these committees. I mention these points to remind you that a plan has been established and much has been done.

Podiatry-chiropody is a profession trained and dedicated to care for the foot health of America. We are too small in numbers and in need of many more students in podiatry-chiropody colleges. I urge that all the alumni of the various colleges keep a concentrated effort in force to aid the colleges in student recruitment. Financial aid for building programs and higher faculty salaries must come from alumni efforts. These unified efforts will solve the problems of our colleges.

GEORGE E. GUENZLER, D.S.C.
Freeport, Illinois

Assumes Office of President
AMERICAN PODIATRY ASSOCIATION
(National Association of Chiropodists)

The public is largely unaware of the importance of foot health and the effect of poor feet on general health and efficiency. No physical fitness program can be considered adequate unless the diagnosis, care, and prevention of foot disorders are included. We must bring to the public the knowledge that care of their feet is an important segment of general health. Millions of Americans have feet that are hurting and do not know that we can relieve their pain and increase their efficiency. The percentage of the public familiar with the importance and benefits of foot care is small. The care of the nation's foot health is the responsibility of our profession. Therefore a constant effort must be maintained to teach the public the need for foot care as a part of the general health picture.

This effort aimed at fulfilling our responsibilities must be continued at every level . . . teaching your patients the importance of foot health, examining school children, developing industrial foot health programs, and, on a state and national level, supplying state and federal governments, and the armed forces, with facts about podiatry-chiropody.

This is a time for action! We must spend money on the national level. As individuals, we must give of our time and contribute the money. There is no easy road ahead, but we will succeed.

In the coming year we will continue to concentrate our efforts in the critical areas. We will continue to emphasize vocational guidance and audio-visual committees. We expect that our Industrial Relations Committee will be able to prove to industry that foot health is an important factor in production . . . also that there is a need to include chiropody-podiatry in all prepaid health plans. Furthermore we are going to redouble our efforts at national headquarters to be of service to our membership.

As a profession we stand at the crossroads, and it is my personal belief that we are just beginning the greatest era in our history. We have no problems that cannot be solved if we have unity. Our energy and money *must* and *will be* spent for the good of the foot health of America. That is our prime purpose and to that responsibility we are a dedicated profession.

G. E. Guenzler, D.S.C.

ANNUAL MEETING 1958

Preliminary Report

The recently concluded 46th Annual Meeting of the Association, August 22-26th, held at the Shoreham Hotel, Washington, D. C., was the best attended and most successful of all our annual meetings. A major highlight was the official banquet, culminating in the "burning of the mortgage" on National Headquarters Building. As guests at the banquet were a large number of officials and dignitaries, representing the United States Army, Navy, Air Force, Office of Education, Public Health Service and Veterans Administration and Allied Medical Associations. The United States Army Chorus provided the entertainment.

Dr. George E. Guenzler of Freeport, Illinois, was installed as President and Dr. Marvin Shapiro, Toledo, Ohio, elected President-Elect. Dr. Marvin D. Marr, Cedar Rapids, Iowa, was re-elected and Dr. Robert Shor, Los Angeles, California, elected Vice Presidents. Drs. L. B. Thompson, Kenosha, Wisconsin, and Joy E. Adams, St. Petersburg, Florida, were elected to the Executive Council for three-year terms.

Dr. Francis S. Schwarz, Troy, New York, was re-elected and Drs. Irving Yale, Ansonia, Connecticut, and Edward L. Tarara, Rochester, Minnesota, were elected to the Council on Education for three-year terms. Dr. Curry L. Meyer, Galesburg, Illinois, was nominated by the Federation of Chiropody Boards and approved by the House of Delegates for a one-year term. Dr. Pierce B. Nelson, San Leandro, California, was nominated by the American Association of Chiropody-Podiatry Colleges and approved by the House of Delegates for a three-year term on the Council of Education.

The Fund for the Advancement of Podiatry (Chiropody) Education was activated and Drs. Milton Wolfson, New York, New York, Charles E. Krausz, Cheltenham, Pennsylvania, and Stanford S.

Rudnick, West Haven, Connecticut, were elected by the House of Delegates to its Board of Trustees. Dr. Sidney Hirschberg, Forest Hills, New York, was re-elected and Drs. H. Arthur McAninch, Spartanburg, South Carolina, and N. H. Ketai, Detroit, Michigan, were elected to the Board of Trustees of the American Foot Health Foundation.

The Award winners in the William J. Stickel Annual Awards for Research in Chiropody (Podiatry) were announced as follows: First Award, Richard O. Shuster, Pod.D.; Second Award (tie), Raymond K. Locke, D.S.C., F.A.S.C.R., and Milton K. Krantz, D.S.C.; Fourth Award, Morton H. Walker, D.S.C.; Fifth Award, Edward H. Bier, D.S.C., F.A.C.F.O., and Murray Bromberg, D.S.C., F.A.C.F.O.; Honorable Mention, Lawrence Frost, D.S.C., and Gordon J. Bronston, B.A., D.S.C. Milton Henenfeld, Pod.D., was announced as the winner of the Drew Award for the best paper on Research on Shoes.

There were 38 Scientific Exhibits and the following medals were awarded to Scientific Exhibitors:

First Classification—Individual—Class A—Sponsored: Gold Award to Dr. Raymond K. Locke; Sterling Award to Harry R. Fishman, B.S., M.S.; Bronze Awards—1. Seymour N. Blau, D.S.C., 2. Benjamin Feldman, D.S.C., 3. William B. Ignatoff, D.S.C.

Second Classification—Individual—Class B—Unsponsored: Gold Award to Marvin W. Shapiro, D.S.C.; Sterling Award to Louis Burger, D.S.C.; Bronze Awards—1. Samuel Moskow, D.S.C.; Arthur B. Wein, M.D., F.A.A.O.S., 2. Irving Yale, D.S.C., F.A.S.C.R., 3. Milton Lewis, D.S.C., F.A.S.C.R.

Third Classification—Public Education and Information: Gold Award to Veterans Administration; Sterling Award to the Podiatry Section of the Army Medical Service; Bronze Awards—1. American College of Foot Orthopedics, 2. Council on Youth Fitness and American Foot Health Foundation, 3. North Carolina State Society.

Fourth Classification—Institutional: Gold Award to Mayo Clinic; Sterling Award to Ohio College of Chiropody; Bronze Award to Civic Hospital, Detroit, Michigan.

Special Award to High School Students Foot Health Winners—All received a silver medal: Ann Shaw, Northeast Arkansas; Jean Neele, Bladensburg, Maryland; and Glenda Ganny, Mount Rainier, Maryland.

Ten doctors participated in the "Gadget and Gimmick Section" and two in the "Hobby Lobby."

Nine trophies were awarded in the Golf Tournament. National Trophy was awarded to Dr. Robert Zak of Cleveland, Ohio. Three low gross trophies to Robert Zak, Cleveland, Ohio; H. Arthur McAninch, Spartanburg, South Carolina; Jerome Ochreiter, Kingston, Pennsylvania. Three low net trophies to John Durkin, Chicago, Illinois; Larry Burns, McCook, Nebraska; Robert Wysocki, Toledo, Ohio. Women's trophy for low gross to Lillian Kolbert, Newark, New Jersey; low net: Augie Bianco, Akron, Ohio.

More than 2,000 persons attended the sessions, meetings, and exhibits. Of these, 1,006 were podiatrists-chiropodists, 215 were members of related professional societies and associations, and 147 were industrial exhibitors.

A further report will appear in a subsequent issue.

YOUTH FOOT CARE WEEK

One of the highlights of our recent annual meeting (the theme of which was Youth Fitness) was an address by Dr. Shane MacCarthy, Executive Director of President Eisenhower's Council on Youth Fitness. Dr. MacCarthy assured us that his "Council" would give us every cooperation.

President Guenzler has addressed a letter to each state president and each state secretary, the contents of which follows:

> "This is an urgent request for you and your members to wholeheartedly support the American Foot Health Foundation—Foot Care Week—October 20-25, 1958.
>
> This Foot Care Week has the endorsement of Dr. Shane MacCarthy, Executive Director of President Eisenhower's Council on Youth Fitness, because our participation in Foot Care Week is needed to make complete the efforts in behalf of Youth Fitness. This is a great opportunity for our profession to serve the American public.
>
> Dr. Hirschberg and I have given Dr. MacCarthy our assurance that our profession will be cooperating with his Council on Youth Fitness in our all-out participation during the Foot Care Week.
>
> Time is short! Follow the directions recently sent you by the American Foot Health Foundation. This is the opportunity we have been hoping for. I urge—plead—yes, even demand—your fullest cooperation with the American Foot Health Foundation—Foot Care Week!
>
> It may be necessary for you to call a special meeting to organize your membership for this all-out effort."

An all-out effort by every member of the Association is urged by President Guenzler to illustrate to the American public our ability, willingness and desire to serve them.

TECHNIQUES IN FOOT SURGERY

L. R. McCAIN, D.S.C., F.A.C.F.S., and N. H. KETAI, D.S.C., F.A.C.F.S.
Editors, Publications Committee, A.C.F.S.

Illustrated case reports and discussions, suggesting approaches to podiatric surgery, from the files of the American College of Foot Surgeons.

SURGICAL CORRECTION FOR PLANTAR KERATOSIS AND SCARRING BENEATH ONE OF THE LESSER METATARSAL HEADS

A MALE patient, aged 55, seen at the office was unable to bear any pressure on the area of the third metatarsal head of the left foot. There were multiple intractable keratoses under the head of the metatarsal. Skin surgery of some kind had been done several months previous, apparently in an effort to remove the warts. These covered an area about the size of a quarter. Several fine scars were present in the area. There was also a slight edema present. Patient had had routine escharotic therapy, surgery, pads and other appliances, but at date first seen was in such pain that procaine infiltration gave first relief in months.

Roentgenograms showed a periosteal proliferation of the lateral aspect of the distal portion of the shaft of the third metatarsal. There was also an enlargement of the plantar aspect of the head of the third metatarsal.

Urinalysis was within normal limits. Blood chemistry for sugar was negative. The blood count and differential were also within normal limits.

The patient was given morphine sulphate gr¼ with atropine sulph, gr. 1/150 as preanesthetic medication. Sodium pentothal with cyclopropane was the general anesthetic used.

Operative technic was as follows: With patient anesthetized and thigh tourniquet applied, a linear incision was made through the skin from a point midway on the dorsum of the proximal phalanx of the third toe left foot, proximally along the lateral side of the extensor tendon to about the middle of the shaft of the third metatarsal. The skin was then dissected away from the underlying attachment and the incision widened. The wound edges were retracted and a second incision made freeing the extensor tendon which was also retracted. Another linear incision was made through the capsule of the joint and periosteum of metatarsal. The periosteum was then stripped away from the shaft of the metatarsal, the soft tissue dissected away, and the distal half of the metatarsal delivered dorsally from the joint. The distal third of the metatarsal was then removed by means of a double action bone cutter, edges trimmed with rongeur, and connective tissue closed with a running suture of 000 chromic catgut. The skin was closed with a continuous 000 dermal suture, pressure dressing applied, and tourniquet removed.

The patient was given codeine sulphate gr. ½ with APC grs. X q. 4 hrs. PRN for pain. Also Sodium Seconal grs. 1½ h.s.

Postoperative treatment was as follows: The patient was redressed with sterile dressing on the fifth day, and the sutures removed on the tenth day. On the fifteenth day there was a slight seepage, and sterile redressing was made using Tincture of Merthiolate.®[1] On the twenty-second day the wound was healed, and the patient instructed to wear a metatarsal bar on all shoes.

The patient, when seen six months after the surgery, had no keratosis present and was completely comfortable.

H. A. Sitkoff, D.S.C.

®[1] Lilly.

Comments: The removal of the distal third of the metatarsal is very radical treatment for the alleviation of a plantar keratosis. In most instances shortening of the metatarsal shaft, or a plantar condylectomy of the head of the metatarsal is the technic of choice.

L.R.M. & N.H.K.

SURGICAL CORRECTION FOR AN ANOMALY WHICH CONSISTED OF A SYNARTHROSIS OF THE DISTAL AND AN ACCESSORY PHALANX ON THE SECOND TOE LEFT FOOT

A FEMALE patient, aged 19, seen in the office presented a painful enlargement of the end of the second digit left foot, with an accompanying heloma.

Roentgenograms showed an anomaly which consisted of a synarthrosis of the distal and an accessory phalanx.

Urinalysis was negative for sugar. Blood count findings and differential were all within normal limits.

The patient was given ¾ grs. Sodium Seconal®[1] one-half hours preoperatively. Anesthesis was effected by means of a toe block using 1cc. Xylocaine Hcl.®[2] 2% plain. A tourniquet was used around the base of the second toe.

Operative technic was as follows: A "fish-mouth" incision was made around the distal of the toe extending from the shaft of the distal phalanx around the end of the toe to approximately the same location on the opposite side. The edges were reflected and the soft tissue dissected from the accessory phalanx by means of a small periosteum elevator. The accessory phalanx was then removed with bone rongeurs and the end of the distal phalanx rounded and smoothed with a fine nasal rasp. The atrophic tissue on the end of the toe was removed and plastic work done on the soft tissue in order to get close approximation. Coaptation was effected by five 000 interrupted silk sutures. One cc. of Achromycin®[3] was injected into the area of the wound, Telfa®[4] applied and pressure dressing used after removal of the tourniquet.

The patient was given six Empirin Compound®[5] with codeine phosphate tablets ½ gr. q. 3 h. if necessary. The patient took only two of these tablets and rested well.

Postoperative treatment was as follows: Pressure dressing was reduced on the second day and sutures removed on the seventh. Debridement was done on the twelfth day and a sterile gauze with stockingette applied. On the sixteenth day debridement was again done and the patient instructed to use Aquasol Cream®[6] with Panthoderm®[6] B.I.D.

When last seen for a progress report eight months after the surgery, the toe and nail were completely normal and the patient comfortable.

Comments: This condition was a little different from the usual osteochondroma seen in the chiropodist's office, although the technic used was similar.

L.R.M. & N.H.K.

®[1] Lilly. ®[2] Astra. ®[3] Lederle. ®[4] Curity. ®[5] Burroughs, Wellcome & Co. ®[6] U. S. Vitamin.

"The best way to forget the past is to plan for the future."

John Foster Dulles
Sec'y of State

PHARMACEUTICAL PREPARATIONS FOR THE PROFESSION

HARRY L. HOFFMAN, Ph.G., D.S.C.
Chairman, Council on Podiatry Therapeutics and Pharmacy

A column devoted to preparations, new and old, with emphasis on their value and uses in everyday chiropody practice. This is a regular monthly column prepared from information furnished by the pharmaceutical house. We invite questions, which we shall endeavor to answer, or obtain the answer.

Aveeno "Oilated"

Description: Active ingredients, Aveeno Colloidal Oatmeal impregnated with a high percentage (35%) of liquid petrolatum and refined olive oil. (U.S.P.).

Indications: For dry skin conditions, senile pruritis, atopic dermatitis, bath itch, lichen planus, psoriasis, mummular eczema, infantile eczema, winter itch, stasis dermatitis, ichthyosis.

Directions: Add the required amount of Aveeno "Oilated" to tub of warm water, stir well. For adult bath, use 3 or 4 rounded tablespoons. For baby's bath, use 2 or 3 level teaspoons.

Supply: In 10-ounce hermetically sealed cans. By Aveeno Corporation, 250 West 57th Street, New York 19, N. Y. (Distributors, E. Fougera & Co., Inc.)

Dalidome

Description: Each Dalidome Powder Packet or each teaspoonful of Dalidome Powder when added to one pint of tap water makes a 1:8 Dalibour Solution containing 0.28% zinc sulfate, 0.08% copper sulfate and 0.012% camphor. This is a nonstaining wet dressing solution with widely effective antiphlogistic, astringent, antiseptic and deodorant properties. Because of its nonstaining properties, it is more satisfactory than potassium permanganate.

Advantages and Uses: Dalibour Solution is an extremely effective wet dressing in the healing of superficial pustular lesions of pyoderma. It is useful in scabies. It has excellent astringent, deodorant and antiseptic properties and has proved useful in pemphitus, exfoliating dermatitis, in generalized bullous eruptions and in cases of pustular dermatitis.

In dilutions of 1:10 and 1:20 it is an excellent deodorant and in these dilutions most useful and recommended for hyperhidrosis and bromidrosis, also very useful in dermatophytosis, hypostatic dermatitis, useful in superficial secondary infections. No sensitization observed when proper dilutions are used.

Directions: Add contents of one Dalidome Powder Packet or one level teaspoonful of Dalidome powder to one pint of ordinary tap water to obtain a 1:8 Dalibour Solution. Various proportions may be made up as desired. Use on unbroken skin, as a wet dressing, soak or therapeutic bath.

Supply: Individual powder packets in boxes of 12 and 100; powder in 4 oz. and 1 pound canisters. By Dome Chemicals Inc., 109 West 64th Street, New York 23, N. Y.

Somnalert Capsules

Description: 5-(1-cyclohexenyl)-1, 5-dimethyl barbituric acid (hexobarbital acid) 250 mg. (4 gr.).

Properties: Ultrashort-acting barbiturate for oral administration.

Indications: Presurgical use—Somnalert is ideal as a hypnotic to provide restful sleep the night before surgery and to reduce nervousness in the patient during the hours preceding surgery. Because of its rapid metabolism there is no residual action of the drug to hinder or distort the surgical anesthesia. Somnalert may also be used in a 500 mg. dose (two capsules) with scopolamine one hour before surgery.

Advantages: The unique, slow solubility of Somnalert affords excellent metering into the bloodstream. First effects of the drug can be noted within 30 minutes of ingestion and last 2 to 3 hours. Owing to its transient action and ultrafast metabolism, there are no after effects such as psychic depression, confusion or impairment of memory. The acute toxicity of Somnalert is less than a fifth of that for pentobarbital sodium by oral administration in mice.

Dosage: For hypnotic effect, one or two capsules before retiring.

Supply: Bottles of 100 and 500. By Warren-Teed Products Co., 582 W. Goodale Street, Columbus 8, Ohio.

Vlem-Dome

Description: Instant-Mix Vleminckx's Solution, a stable mixture of calcium polysulfide, calcium thiosulfate & sulphur. The contents of one Vlem-Dome powder packet or one level teaspoonful of Vlem-Dome powder when added to one (1) pint of hot tap water makes an instant solution equivalent to 4 teaspoonfuls of the old-type Vleminckx's solution diluted in one pint of water.

Advantages and Uses: Pleasant odor, quickly and easily prepared, instantly available, may be used as a hot compress or steam bath. This stable wet dressing solution has the therapeutic activity of Vleminckx's solution. This is a highly effective application in the control of papular and pronounced acne vulgaris and acne conglobata.

Indications: Acne vulgaris, acne conglobata, deep cystic acne, seborrhea capitis, pityriasis rosea, pyoderma faciale, sycosis vulgaris, tinea barbae, verruca plana and senilis.

Directions: Wet dressing: Mix contents of one packet or one level teaspoonful of powder into a pint of hot water and stir. If solution is too drying, use one quart of water to make dilution. Apply with compress for 15 or 20 minutes twice daily or as often as necessary. Steam bath: Add contents of one packet or one level teaspoonful to a vaporizer containing hot water and allow vapor to rise and contact affected areas for 10 to 15 minutes twice daily, or if solution is too drying, use one quart of water to make dilution.

Precautions: Do *not* use simultaneously with mercurials or iodides. Avoid contact with metal utensils, objects and jewelry.

Supply: Powder packets in boxes of 12 and 100; powder in 4 oz. and 16 oz. containers. By Dome Chemicals Inc., 109 West 64th Street, New York 23, N. Y.

Epsilan-M Capsules

Description: Each capsule (red, oval) contains 100 I.U. d-alpha-tocopherol acetate.

Properties: d-alpha-tocopherol acetate, standardized biologically in International Units (all alpha — approximately triple strength in comparison to milligrams of mixed tocopherols). Alpha-tocopherol is an antioxidant and its function in the body may depend upon this property. There may be some parallel with vitamin A and there certainly is a relationship between the two in metabolism. It is essentially nontoxic even in large doses.

Indications: Epsilan-M is used for leg ulcers, sclerosis of the legs, gangrenous, diabetic and other ulcerative conditions of the feet when improved vascular circulation or better oxygen utilization in tissues is desired. Clinical evidence indicates that Epsilan-M Capsules improve circulation in the extremities, promote healing of indolent ulcers and other skin lesions and contribute to the general well-being of the patient.

Dosage: 300 I.U. daily.

Supply: In bottles of 100 capsules. By Warren-Teed Products Company, 582 W. Goodale Street, Columbus 8, Ohio.

PODIATRY-CHIROPODY ABSTRACTS

ROBERT SHOR, D.S.C.
LOS ANGELES, CALIF.
Chairman, Committee on Publications

Editors of Local, State and Regional Publications are requested to provide copies to the Chairman of the A.P.A. Committee on Publications who is preparing this section of the Journal.

PEDIC SUBLUXATION AND DISLOCATION

S. Pitts, Chiropody Review, 1:24-27, 2:27-28, January and February 1958.

Misplacement of the bones forming a joint is termed subluxation when partial, dislocations when complete. Pedic joint interference occurs from three essential causes – viz., sudden trauma, gradual trauma, tissue change.

Sudden dislocations are liable to occur in any joint of the foot, but the tarsal area is most often affected because of its comparative rigidity. The toes being somewhat more flexible give further before misplacement actually takes place. Size, too, plays an important part. The toes being relatively small are not quite so liable to the blows which affect other aspects of the foot.

Pitts describes and discusses the various joints of the foot and their appearances when subluxated or dislocated.

ROENTGEN DIAGNOSIS OF SHORT LEG

Milton R. Lewis, Canadian Podiatry J., 2:2-5, April 1958.

This material represents additional work by Lewis on the subject of posture with special reference in the short leg syndrome and its effect on balance both in the feet and in the pelvis.

When man became a biped, major changes had to take place at the pelvis for his skeletal framework to now carry body weight in an erect position. Dickson has called attention to the great need for a clearer understanding of what he terms "functional anatomic relations of the human body." This is to say that certain diseases may fall into a group whose causative factors may be anatomic abnormality.

Lewis limits his paper to the mechanical handling of this problem with shoes and prosthesis.

Workers in this field, in studying standing foot and pelvis x-rays, believe that the foot may be the major factor in the case of the short leg syndrome. In Grant & Beal's series of 100 cases more than 50% were found to have a lowering of the talus bone in the foot. Half of the cases with the depressed talus had a short leg on the same side. They also found a high percentage of pronated feet as a common finding with the depression of the talus.

Lewis further discusses the diagnosis, history, examination and the proper positioning of the patient for a standing hip X-ray.

PIGEON-TOED GAIT IN CHILDREN

Philip Brachman, Current Chiropody, 3:7-8, March 1958.

Children from one year to six years of age are often addicted to a pigeon-toed gait.

Dr. Brachman relates the following facts regarding pigeon-toeing: 1.) A child may walk with a pigeon-toed gait, either bilaterally or unilaterally, because of a true talipes condition. In such instances the bony and ligamentous structures are affected and an x-ray will show the variations from normal. X-ray findings primarily will show the talus superimposed over the calcaneus and the bases of the metatarsal shafts will be crowded together with the bones fanning out medialward. 2.) Most

children who walk with a pigeon-toed gait are usually in the calcaneo-valgus classification and they swing the forefoot medialward to prevent the complete collapse of the entire foot. X-ray findings reveal a medial deviation of the talus beyond the normal range of six degrees from the line bisecting the first metatarsal shaft and extended posteriorward. The navicular and the cuneiform bones will be underdeveloped.

Brachman states that treatment is best obtained by mechanical intervention.

A NEW ORGANIC ABSORBENT CELLULOSE POWDER

Clinical Results in 1452 Cases with Special Reference to Treatment of Ringworm of the Skin, Cleveland J. White, M.D., Chiropody Record, Nos. 3-4:34-38, March-April 1958.

White has used a new organic cellulose powder with affirmed therapeutic efficiency in marked inflammatory or hyperhidrotic states to reduce the growth of bacteria and fungi by the absorption of excessive moisture. Then the residual infectious condition can be more effectively treated by other specific medicaments. Another essential feature of this powder is its deodorizing effect, which is brought about by the distinct reduction of moisture, favorable surroundings in which the bacteria thrive, producing the obnoxious odors. As a drying agent with the addition of fungicides, it has proved to be very effective in preventing the spread of "ringworm."

This new powder base has been used very effectively in excessive hyperhidrosis of the feet, body and sides of the neck where the usual powders cake. In cases of marked hyperhidrosis, especially in the intertriginous areas, the absorptive power has been enhanced by additives, as certain members of the anti-cholinergic drugs.

This powder base consists of the maize core cellulose and has a pH value of 4.9. It is low in fat content and, therefore, cannot become rancid. It contains no minerals or metals and is acid and resin-free. The powder can be sterilized (by dry heat) and its sterility has lasted as long as 23 months.

THE MANNER OF INCISION

Alan K. Whitney, Current Chiropody, 1:7-10, Jan. 1958.

The planning, preparation, and execution of the surgical incision is a very important part of surgery for it governs the relative ease with which the chosen procedure can be accomplished. Whitney discusses such factors as proper angle, depth, length, direction, and design which is best for the intended procedure.

Through illustrations, Whitney shows some of the more common incisions for access to deeper structures; removal of protruding subcutaneous masses; and correction of surface defects.

FACTORS PERTINENT TO THE CAUSES AND EFFECTS OF EDEMA

Nancy Lu Conrad, Canadian Podiatry J., 2:9-12, April 1958.

During the chiropodical examination of a patient one of the common signs which presents itself is the edematous extremity. The localized edemas manifesting themselves due to some injury predisposing to local inflammations mechanically form in somewhat similar ways as those caused by organic diseases but are dispersed and absorbed as soon as the local irritation is removed and repair becomes affected, while the constant insidious fluid accumulation caused by systemic illness remains as long as their causes run rampant within the physiological system.

Conrad discusses some of the mechanisms of fluid production of edema as well as some common causes of edematous extremities as might confront a chiropodist in the daily examination and treatment of patients with pathologic signs and symptoms.

BOOK REVIEW

MODERN DRUG ENCYCLOPEDIA and THERAPEUTIC INDEX, Seventh Edition

Edwin P. Jordan, M.D., F.A.C.P., University of Virginia Medical School, Charlottesville, Virginia; Lecturer in Social and Environmental Medicine; Executive Director, American Association of Medical Clinics; 1516 pages; $17.50; Drug Publications, Inc., 11 East 36th Street, New York 16, N. Y., 1958.

The purpose and contents of the Modern Drug Encyclopedia, first published in 1935, are well known. The previous two volumes appeared under the editorship of Dr. M. E. Howard of New Haven, Connecticut.

The Seventh Edition has many new features, including a bi-monthly service on new drugs and new forms and combinations. In this volume you can quickly locate the manufacturer, composition, action, uses, administration and supply of any of the national medical preparations. Over two thousand changes, deletions and additions have been made in the new edition. Features of this publication are the new narcotic classifications, an authoritative check of prescription drugs and an enlarged Generic Name Index. Biological preparations and allergens have been combined alphabetically with pharmaceuticals. Prescription drugs are indicated by the symbol (Ps) after the name of the drug.

There has also been a change in regard to narcotic indications; to denote its status under federal narcotic laws, the following will appear in front of each drug when indicated:

A—Narcotic preparations under full control. Narcotic order forms and written prescriptions required.

B—Narcotic preparations permissible on oral prescription. Narcotic order forms required but sale permissible on an oral prescription of a physician or podiatrist.

X—Exempt narcotic. Narcotic registry number required, but over-the-counter sale for bona fide medical use permitted.

The Generic Index has been expanded. The Therapeutic Index includes a larger number of cross references.

This valuable publication answers your questions about New Ethical Drugs quickly and completely. Hundreds of new drugs and medications, the result of pharmaceutical research, are discovered each year. This puts added responsibility upon the writer of prescriptions and the prescription pharmacist. This reference book fills the needed information and knowledge.

The Modern Drug Encyclopedia Service keeps you up-to-date for a three-year period with 18 issues of the bi-monthly supplement, Modern Drugs, at no charge. This is an indispensable reference for the podiatrist, physician, nurse, industrial infirmary, hospital drug room, college and university. It is a required reference (by law), by the pharmacists in the state of Michigan.

It is a handsomely bound book in durable red cover stock, size 6" x 9¼ x 2¼. An additional feature is a matching red binder for keeping Modern Drugs bi-monthly supplement issues within reach, cost $2.50.

Harry L. Hoffman, Ph.G., D.S.C.

Behind an able man there are always other able men.

Chinese proverb

DIGESTS FROM THE LITERATURE

Anyone wishing to read the complete article, if not available in your local library, may borrow it through interlibrary loan. A microfilm may be borrowed from the National Medical Library, Washington 25, D. C., or a photo-duplication may be obtained from that library.

CIRCULATORY SYSTEM

Mechanisms of Edema Formation and Principles of Management, J. H. Laragh, et al. Amer. J. Med. 21: 423-41, 1956.

Chronic, progressive accumulation of salt and water in a progressing edema is displaced outside the vascular tree; this reaction is governed by the Starling principle which states that edema can result from: (1) a reduction in serum protein concentration, with fall in effective oncotic pressure; (2) increase in venous pressure, or (3) change in permeability of the capillaries; (4) from increased protein content of edema fluid; (5) decrease of local tension, and (6) obstruction of lymphatic drainage. These factors differ according to whether edema formation is due to cardiac failure, to cirrhosis, to the nephrotic syndrome, or to malnutrition. Abnormal retention of sodium chloride by the kidney is an essential concomitant in some of these causative factors. The works of various investigators regarding salt and water retention and glomular infiltration are presented. Alteration in blood pressure and constriction or dilation of afferent and efferent glomular arterioles will cause the glomular filtration to fluctuate from moment to moment. The glomus acts as the end receptor which adjusts to hemodynamic changes. Hormones influencing the tubular activity include the antidiuretic hormone of the neurohypophysis (promoting water reabsorption), and the sodium retaining steroids of the adrenal glands. The factors known to modify renal excretion of sodium in the normal subject are described. To what extent these factors are significant in chronic states of edema is not known.

Experiments have shown that sodium chloride retention, rather than retention of water, is of prime importance. The most powerful of the sodium retaining hormones of the adrenal glands is the new hormone aldosterone. This hormone seems little under control of the anterior pituitary. Whereas no correlation has been demonstrated between the serum sodium concentration and aldosterone excretion, such a relationship is found to exist between the serum potassium level and urinary excretion of aldosterone. Urinary aldosterone in patients with edema is reduced by administration of sodium, restriction of potassium, and rapid infusion of fluid, but the values are still much elevated above normal. What stimulates the adrenal gland and how any of the sodium retaining substances operate at the renal tubal level is not known.

The problem of mobilization of edema fluid, glomular-tubular imbalance, and the effects of administration of mercurials, particularly Diamox, was discussed. In summary, it was stated that the renal tubules show a remarkable capacity to adapt to striking changes in glomular infiltration and aldosterone is invariably noted in the presence of edema in both patients and animals with edema formation, but it is not clear whether this is produced by increased production of the hormone by the adrenal glands or whether it reflects destruction by the congested liver. Mercurials seem to diminish reabsorption of chloride ions, but prolonged administration causes hypochloremic alkalosis and a diminished response to the drug. Diamox, however, acts as an inhibitor of carbonic anhydrase, thereby interfering with reabsorption of

bicarbonate ions; continued use of this agent causes metabolic acidosis. By proper combination of these two diuretics prompt diuresis may be obtained without disturbing the acid-base balance.

Origins and Manifestations of Local Vasomotor Disturbances and Their Clinical Significance, H. M. Wright. J. Amer. Osteopathic Assn. 56: 217-24, 1956.

A review of the extensive literature on this subject is presented. Vasomotor disorders have been found to play a role in chronic endogenous degenerative syndromes, in rheumatoid arthritis, in infective diseases and possibly in cancer. Local vasomotor disturbances may originate from trauma areas, diseases, and developmental defects, and also from autonomic imbalance. Local vasomotor disturbances act as a pathogenic mechanism, (1) by reduction in the functioning reserve of an organ or tissue, (2) by lowering resistance to infection by bacteria or secondary invaders, (3) by alteration in the response of a tissue or viscus to normal nervous and hormonal influences, (4) by local vascular disturbances in nervous tissue itself. Local autonomic imbalances may be initiated or maintained by musculoskeletal stresses or myofascial mechanisms. Somatic stresses through the mechanism of autonomic imbalance associated with circulatory changes may be important localizing factors in determining which visceral syndrome the patient may develop. The implications of local autonomic imbalance should be recognized and therapeutic attention be given to the musculoskeletal system in order to enhance resistance and recovery from various diseases.

MUSCULOSKELETAL SYSTEM

Bursitis of the Lower Extremity (Editorial), Med. Times 84:1373-77, 1956.

Diseases of the superficial bursae may be of several types, acute, subacute and chronic, or suppurative. After the serosanguineous fluid of acute bursitis is absorbed, the acute symptoms subside and a fibrous thickening of the bursa wall remains. Treatment is immobilization by use of a metal splint or by bed rest, an elastic bandage to prevent swelling, and alternate cold compresses and heat, and aspiration of fluid. Local hydrocortisone injections are helpful. In subacute and chronic bursitis calcification of the bursa wall may occur. Pain is relieved by aspiration, injection of sclerosing agents, and excision under anesthesia. Lymphangitis may develop in suppurative bursitis. Treatment consists of splinting, bed rest, use of moist heat, incision after the acute stage subsides, drainage and use of antibiotics. These diseases occur in the prepatellar bursa, in the Achilles tendon bursa, in the superficial bursa over the medial side of the head of the first metatarsal (bunion), and over the proximal interphalangeal joint of a hammertoe.

Diseases of the deep bursae of the lower extremity due to a direct or an indirect trauma, produce pain on movement, weakness of the extremity, tenderness and swelling over the bursa. Non-traumatic bursitis may follow degenerative changes in the bursa wall. Treatment at the acute stage consists of rest, local heat, sedatives, aspiration and incision and drainage if the symptoms are long standing. The bursae which may be involved are the supra-trochanteric, the subgluteal, the pretibial, the bursa of the heel. Pain in the heel (with or without a spur) is usually in the region of the tuber calcanei. Drainage under local anesthesia relieves the pain. If symptoms continue, division of the aponeurosis to the calcaneus through a medial incision may be performed under local anesthesia, followed by a week of rest and elevation of the extremity.

A Two-Stage Stabilization Procedure for Correction of Calcaneocavus, G. E. Sheer

and C. H. Crego, Jr. J. Bone & Joint Surg. 38A:1247-53, 1956.

When calcaneocavus is not treated early by adequate splinting and bracing, muscle-tendon transfers, and physiotherapy, functional power in the gastrocnemius and solus is lost. An operative procedure is presented for correction of calcaneocavus after advanced structural deformity has developed, in an attempt to obtain a corrected, stable foot, normal in appearance as far as possible, and also to afford a good weight bearing sole when fitted with a normal shoe.

The operation is performed in two stages. Incision is made along the medial border of the Achilles tendon proximally from the point of insertion, the tendon retracted laterally, and the incision continued along the capsule of the subtalar joint and superior calcaneal surface. The flexor hallucis longus is retracted medially, the posterior part of the capsule resected, and the superior aspect of the posterior calcaneus tuberosity resected. After widening the exposure, the joint is excised and the greater part of bone removed from the calcaneus. Pressure upon the heel closes the gap and rotates the calcaneus to horizontal position. With the forepart of the foot now in equinus position, cancellous-bone chips, from the excised bone, are packed in. The incision is closed and the extremity enclosed in a long plaster cast. Four weeks later a plantar fasciotomy is done. After incision on the dorsolateral aspect, the contents of the sinus tarsi enucleated, followed by stripping the capsule and capsular ligaments from the head and neck of the talus, and opening of the talonavicular joint. A wedge, with its base lying superior, is removed. The calcaneocuboid joint is excised and the gap closed; the deformities of the forefoot are thus corrected. A plantar cast immobilizes the foot for six weeks.

The operation was performed in 24 feet. Only two minor and one major complications occurred. One was a mild maceration of the skin edges in the first stage which delayed the second stage procedure for two weeks. In two a large full-thickness skin slough occurred about the ankle and over the dorsum of the foot and required skin grafting and delayed the second stage operation for one year. Final results were satisfactory in 21 feet and unsatisfactory in three, two of which arthrodesis resulted in a varus position and required reestablishment; one did not have satisfactory correction of the calcaneus deformity.

The Lesion of Morton's Metatarsalgia (Morton's Toe), T. M. Scotti. Arch. Pathol. 63: 91-102, 1957.

Seventeen patients, only one of whom had bilateral lesions, had symptoms enduring from a few weeks up to 15 years. In most cases the pain was at a point between the heads of the third and fourth metatarsals particularly when walking, and was relieved by removal of the shoe. Usually there was tenderness over the affected site. Neurectomy in all cases was performed, followed in some cases by use of arch supports or special shoes. In most instances the fourth plantar digital nerve was involved. The initiating cause is considered trauma from weight bearing and from use of small high-heeled or ill-fitting shoes.

Direct Stimulation Myography and Ergometry of Human Calf Muscles with Supplementary Observations on Calf Elasticity, E. A. Edwards and W. P. Murphy. Surg., Gyn. & Obst. 103: 719-25, 1956.

Use of the rhythmic oscillating current of the Batrow stimulator afforded stimulation of the calf muscles of normal subjects, of arteriosclerotic patients and patients with muscle ischemia. Myograms of tetanic contractions and ergograms of repeated contractions allowed estimation of rapidity, power and changes in muscle tone. When stimulation was omitted data was obtained regarding elasticity of the calf

tissues. The ischemic limb differs from the normal in that it responds with a sluggish contraction of low power and of low amplitude, together with a sluggishness and incomplete relaxation which is related to a diminution in elasticity at rest, and to the rapid development of a high tone, which is found characteristic also of a fatigued normal muscle.

The Perpendicular in Relation to Walking Casts, by R. Ruding. J. Bone & Joint Surg. 38-A:1379-81, 1956.

To provide free rocking motion of the foot while walking, a walking iron or heel on the walking plaster cast must have only a small contact with the ground, and therefore must be placed exactly beneath the center of gravity, in order to avoid abnormal stress on the foot and leg within the cast while standing or walking. The point at which the walking heel should be placed is midway between the calcaneal tuberosity and the "anterior foot," or just anterior to the mid-point of the line joining the ball of the foot and the back of the heel. The shoe of the other foot should be built up with a cork sole to keep the pelvis level. The method used to place the heel in correct position is described. Such placement of the heel has shortened the convalescent period after surgery and after fracture, and also the time required for plaster immobilization.

Postural Re-education: A Critical Examination of Methods, B. Kiernander. Proc. Roy. Soc. Med. 49: 667-70, 1956.

Poor posture is due (1) to mechanical defects, varying from congenital defects occurring in any part of the skeletal or central nervous system, and to many other conditions, congenital or acquired, such as those following poliomyelitis; (2) to psychologic defects (depression or unhappiness in the home or school, common in city children aged 15 to 18); (3) to general health, such as debilitation; (4) to faulty habits, such as faulty stance at work. The types of postural defects have been listed as increasing pelvic inclination with mobile spine (lumbar lordosis); dorsi-lumbar kyphosis (sway back); decreased pelvic inclination with mobile spine (flat back), and dorsi-lumbar hyposis (round back). Unless overcome, these defects tend to be attended by backache, pain in the limbs, and a predisposition to osteoarthritic changes, particularly of the spine. Treatment consists in making the patient aware of his need to hold himself erect, and of taking a keen interest in sports and games. He should be stimulated to a good psychologic outlook on life. After the age of 15, deterioration occurs, especially in individuals who do not indulge in physical exercise or have no postural training.

Further Studies of the Inheritance of Hand and Foot Anomalies, O. Johnson. Clin. Orthoped. 8:146-60, 1956.

A study is reported of a 5-generation pedigree of a family showing the frequency of clinodactyly and streblomicrodactyly, and in a 7-generation pedigree of a family showing pes planus amd hallux vagus. Two types of zygodactyly are described. In the first pedigree webbing was present between the second and third toes, extending farther on the right foot than on the left, but the webbing on the right foot varied in extent. Only sons of affected fathers had this anomaly. The same was true of sons of affected fathers in the second pedigree. In this group all toes of both feet showed webbing extending to the tip of the toes. No variations in webbing occurred in the second pedigree. The inheritance is due to a dominant gene located in the y-chromosone. In a family showing slight clinodactyly and streblomicrodactyly all affected individuals transmitted the anomaly to daughters and sons. The trait seemed to be transmitted by a dominant gene with reduced penetrance.

Re-evaluation of Etiologic Factors in Congenital Anomalies of the Skeleton, T. H. Vinke. Clin. Orthoped. 8: 7-12, 1956.

Production of congenital skeletal anomalies has been reported to occur frequently in rats through maternal vitamin deficiency, or from exposure to roentgen rays, to vitamin deficient diets, and to injection of hormones into the pregnant mother. Deformities in chicks have been produced by insulin therapy, and use of Synthalin, thalium salts, sulfas and cortisone. It cannot be assumed that experimentally caused malformations in animals imitate prenatal human conditions. The etiology of malformations of children will be determined by clinical observation of the patients, their environment and pedigree. Congenital deformities (cataract, cardiac deformity, deafness, mental retardation, clubfoot, and dental problems) are associated with maternal rubella during the first trimester of pregnancy, and in some cases with other virus diseases.

Stress Fractures of the Fibula; Review of Fifty Cases, M. B. Devas and R. Sweetnam. J. Bone & Joint Surg. 38B: 818-29, 1956.

Onset of symptoms in these cases was either abrupt or insidious. Those with abrupt onset had sudden severe pain above and behind the outer side of the ankle. Insidious onset was more common, with gradually increasing pain behind the ankle with a tender spot back of the fibula. Swelling above the lateral malleolus was observed in some cases. Limp was noted on walking; running or going upstairs caused pain at the fracture site. Radiologic evidence was not observed for two to four weeks, except in a few patients. Low fractures tended to be transverse while higher fractures were oblique. These stress fractures of the tibula in athletes usually occur from running on a hard surface, the runner tending to land on his toes to prevent jar. Unless treated, symptoms continue from three to six months. They are treated by use of adhesive elastic strapping from metatarsal heads to below the knee. Normal walking is allowed. Therapy is continued until there is no longer tenderness on firm compression of the fibula toward the tibia, or about six weeks after onset.

Assessment of Mobility in Joints, P. O. Williams. Rheumatism 13: 13-16, 1957.

Accurate recording of the range of movements of affected joints is necessary to determine the efficacy of a treatment. A pain-free joint although limited in movement is usually greatly superior functionally to the joint with a full range of painful movement. Elimination of pain in a joint allows a great increase in movement. The chief causes of loss of movements must be recognized before treatment is planned—pain, swelling, muscle spasm, fibrosis or contraction of the capsule, muscle shortening, ankylosis. Methods of assessing mobility are discussed for each joint. Toe and foot movements cannot be measured with any accuracy.

Joint Paracentesis from an Anatomy Point of View. I. Shoulder, Elbow, Wrist and Hand. II. Hip, Knee, Ankle and Foot, J. A. Miller. Surgery 40: 993-1006, 1956; 41: 999-1011, 1957.

Six principles are defined for selection and evaluation of possible sites for paracentesis: (1) A site should be selected as far removed as possible from large nerves, blood vessels and tendons. (2) Bony landmarks should be used in determining the exact location of a target area. (3) The target area may be enlarged either by distraction or by positioning. (4) Positioning should be used to increase ease of palpation. (5) Positioning should be used to stretch the joint capsule and its supporting ligaments. (6) Scoring of

articular cartilages should be avoided as far as possible. Joint paracentesis is a simple office procedure if the physician studies the regional anatomy of the joints and has these principles in mind.

The recommended approaches to the shoulder, elbow, wrist, hand, hip and knee are described (omitted here). The *ankle* (tibiotarsal articulation) may be approached by anteromedial or anterolateral direction equally well. The former allows a little more space for insertion of the needle between the joint surface when the foot is plantar flexed. The favored landmark is the medial malleolar sulcus. The needle is inserted between the talar trochea and the lateral surface of the medial malleolus. The bony landmark for the anterolateral approach is the medial margin of the lateral malleolus and the lateral prominence of the trochea tali. Following identification of the long extensors of the toes, the needle is inserted into the angle formed by the articular surface of the lateral malleolus and the lateral part of the distal end of the tibia. *Intertarsal articulations* should be approached from the dorsal side. The head of the talus being palpable, paracentesis of the talonavicular joint does not require roentgenologic aid. With the foot plantar flexed to open the space between talus and navicular, the needle is inserted at right angles to the surface just distal to the sharp margin of the talar head and medial to the extensor hallucis longus. Of the *tarsometatarsal* articulations, only the first and fifth are easily accessible. The approach to the first tarsometatarsal joint is medial just proximal to the base of the first metatarsal; to the fifth tarsometatarsal the approach is lateral just proximal to the tubercle and dorsal to the peroneus brevis tendon. The *toe* joints are best approached from the extensor surface. The dorsal part of the joint cavity is somewhat enlarged by combined contraction and passive flexion of the toe. A dorsal approach is made into the *metatarsophalangeal* joint distal to the head of the more proximal bone, medial or lateral to the extensor tendons, and aided by flexion and contraction of the toes.

Genetics of Joint Disease, R. M. Stecher. Clin. Orthoped. 8: 20-23, 1956.

Various studies have demonstrated that Heberden's nodes are an osteoarthritis of the finger joints only and not incidental to a generalized syndrome. These nodes occur in 30 per cent of females and 3 per cent of males. The females develop nodes and their brothers are carriers to their daughters. Rheumatic fever is dependent upon two factors, both of which must be present: a susceptibility which definitely depends on heredity and infection with hemolytic streptococci. Though the entire population is vulnerable to streptococci, susceptibility to rheumatic fever is limited to the 3 per cent who develop it. This 3 per cent seem genetically determined on the basis of an autosomal recessive factor. With improved housing, nutrition and prophylactic care, rheumatic fever may soon be completely controlled and a rare disease. When rheumatic fever is recognized, siblings should be treated promptly and adequately with antibiotics to cure the infection before a rise in antibodies occurs. A study of the genetics of rheumatoid arthritis showed that 3 per cent of all relatives of the patient have been affected. Although heredity plays a role in this disease, other secondary conditions are significant—infected teeth, tonsils and sinuses, and unhygienic home and work conditions. In cases of ankylosing spondylitis an incidence of 2.5 per cent was noted among relatives of 70 cases in men. The trait is assumed to be an autosomal dominant. Since gout is also recognized as a genetic disease, occurring mostly in men, brothers of a gouty patient should be investigated and those susceptible identified. Prompt diagnosis

can be made then, when acute arthritic symptoms occur. Evidence has been found of the hereditary nature of diseases of the hip, but causes of osteoarthritis of the hip include previous fracture, traumatic dislocation and aseptic bone necrosis following injury, without relation to heredity. Prompt treatment will reduce incidence of osteoarthritis of the hip in middle or late life.

So-Called Spastic Flatfoot, R. W. Newman. Postgrad. Med. 20: 468-82, 1956.

Static flatfoot may be relaxed, fixed, or rigid. In relaxed flatfoot the deformity is transitory; the unsightly deformity is seen only on weight bearing. This type is associated with laxity of the ligamentous and muscular apparatus. Fixed flatfoot, which evolves from untreated, relaxed flatfoot shows an unyielding fixity and contraction of the soft tissues. Usually there is an associated spasticity of the muscles controlling the foot and is particularly prominent in the peroneal muscles. The deformity in rigid flatfoot is advanced and irreversible; the misshapen foot reflects corresponding distortion of its skeletal components.

Spastic foot differs from static flatfoot though the contour may be the same. Its distinguishing features are pain on weight bearing, occurring before the years of puberty, associated with partial to complete restriction of motion in the subtalar and midtarsal joints of a growing child. A spasm or contraction of muscles controlling the lateral balance of the foot may occur, particularly in the peroneal muscles, and may be prominent in the early symptoms. The abnormal position of the foot may be altered noticeably when manipulated under anesthesia. There is an abnormal distribution of weight bearing stresses in the midtarsal and subtalar joints caused by a congenital anomaly consisting of a bony bridge or bar, complete or incomplete, extending between, and uniting either the navicular bone, or the talus, with the calcaneus. The abnormality impairs functional efficiency of these joints and produces serious degenerative changes. It may be overlooked even in roentgenograms by the average physician.

The presence and extent of anomalous bones may not be definitely established by the best x-ray technique, and the diagnosis will depend upon roentgenographic features known to be associated with such a bony bar. Pain and easy fatigability occur early in life when weight is borne by the affected foot. Rest brings relief, but nocturnal pains can be an early symptom. Treatment should be aimed at establishing more normal distribution of static and dynamic stresses, by surgical measures—by simple excision of the bony bar in early cases, but in late cases with advanced osteoarthritic changes in the involved joints, surgical arthrodesis seems indicated. A conservative measure to be tried consists of support and protection of these joints against abnormal strains by use of an immobilization apparatus to absorb painful strains, together with avoidance of walking on irregular and difficult terrain, particularly in the elderly in whom secondary osteoarthritic changes have occurred.

NERVOUS SYSTEM

Present Status of Multiple Sclerosis, A. W Engel. McGill Med. J. 23: 265-78, 1956.

The history of this disease, its epidemiology and the many suggestions regarding its etiologic factors are described, together with the pathologic anatomy and physiology. The disease may begin between 18 and 45 years of age, with initial symptoms of tremor or ataxias. Four types are recognized: (1) chronic progressive type (25 per cent of cases) with a downhill course interrupted by brief remissions; (2) remittent type (50 per cent) with marked exacerbations and irregular remissions; (3) the acute type with a galloping course ending in death within a few months (1

per cent) and (4) a stationary type arrested for at least four years (2 per cent). Considerations in diagnosis are: a history of one or more neurologic signs or symptoms not explained by some other cause, followed by remission and then recurrence; and demonstration of separate discrete lesions scattered in the central nervous system. Diagnosis is confirmed by laboratory tests. Therapy is by use of (1) prevention and supportive measures; (2) measures to counter factors in the causation and progression of the disease; (3) symptomatic treatment of irreversible sequelae; (4) rehabilitation. Rehabilitation consists of use of massage, hydrotherapy and exercises, active and passive, to restore impaired joint and muscle function; teaching the patient to walk, eat, dress and care for his body if he has lost any of these capabilities.

A Simple, Inexpensive Nerve Stimulator, J. J. Wolfe and S. Adams. Amer. J. Surg. 92: 931-36, 1956.

This instrument is a mechanical oscillator similar to a door buzzer. It vibrates at approximately ten vibrations per second. Its driving power is obtained by closing a contact momentarily on the downswing, either positive or negative, depending on whether the electrode is plugged into the positive or negative electrode receptacle. Three ordinary flashlight cells will keep the unit in continuous operation for at least eight hours. With the current at a minimum, no mass contraction of the muscle occurs. Any muscular contraction that takes place, does so by stimulation of its nerve supply.

NEW GROWTHS

Malignant Melanoma, F. H. McMullan and L. F. Hubener. Arch. Derm. 76: 618-19, 1956.

Of 115 specimens of lesions diagnosed clinically as malignant melanoma, 44 were proved malignant histologically. Of 87 diagnosed histologically, 44 were diagnosed clinically. Comparison is made with other statistical reports. The conclusion is that clinically malignant melanoma cannot be diagnosed with any degree of accuracy. Only microscopic examination will accurately establish the diagnosis in suspected cases.

Treatment of Subungual Hematoma, J. K. Donahue, G P 14: 139, Dec. 1956.

A paper clip is straightened, then slightly bent to make holding easy, and one end heated to glowing. When the glow has disappeared, that end of the clip is steadily pushed through the nail into the hematoma, and the blood evacuated. The clip must not enter the nail bed. The opening is covered with tape for 24 hours. No anesthesia or antibiotics is necessary, but tetanus prophylaxis is mandatory.

Moles—Benign or Potentially Malignant? K. V. Cammack. J. Michigan State Soc. 55: 1353-54, 1956.

Five types of melanoma are described: (1) intradermal nevus which is smooth, papillary or hairy and variously pigmented; they never occur below the knee or on the hands and feet. (2) Junctional nevus which is flat or slightly raised, hairless and pigmented from light tan to black; they occur on the genitals and extremities, particularly below the knees and elbows; they are potentially dangerous; most melanocarcinomas are thought to arise from them. (3) Compound nevus, which is a combination of the two types described; they do not contain hair and a patient spontaneously losing hair may be having a junctional change which is potentially malignant. (4) Juvenile nevus, which appears in children and microscopically resembles adult malignant melanocarcinoma, making them seem to be malignant, but they follow a benign course. (5) Blue nevus which may occur in the buttocks or the dorsum of

hands and feet; they are flat, smooth, hairless and very dark brown to blue black; they rarely become malignant.

Removal of a potentially malignant lesion should be done with a cold knife, incising the growth with an adequate border of normal skin surrounding it. A microscopic study should then be made by a competent pathologist. Radical surgery is indicated if there is recurrence. Malignant changes are indicated by any change in size, color and ulceration of moles produced by slight trauma. Ulceration in a diagnosed melanosarcoma gives a poor clinical prognosis.

PHYSICAL MEDICINE; REHABILITATION

Medical Use of Light Sources, P. Bauwens. Ann. Phys. Med. 3: 49-54, 1956.

The dangers attending indiscriminate use of antibiotics are being recognized by the medical profession. Nature provides ways of overcoming infections and intoxication. Natural defense mechanisms may be aided by physical means, such as ultraviolet radiation (UVR). It has been proved that the UVR of short wavelength (2500 Å) are absorbed by the corneal layer of the epidermis and produce in it a photochemical decomposition of typical proteins. Thus it becomes apparent that the breakdown products and proteoses will have decided vasodilatory effects even in small concentration; this could account for the erythema following irradiation with short UVR. Apparently the corneal layer is an essential factor in producing erythema by irradiation below 2500 A and a barrier in radiation of 2970 Å.

When the therapeutic effect of the wave-l and around 2970 Å is needed to act through the skin, the vapor burner is not used unless the shorter radiations are first filtered out. Two distinctive properties of the longer UVR around 2900 Å existing in the solar system are converting ergosterol into vitamin D and causing cellular death in massive doses. In cases of vitamin D deficiency or where vitamin D is required for therapy, administration of calciferol and special diet are indicated instead of UVR. Radiation from light sources, while lethal to living cells, in non-injurious doses can elicit defensive reactions.

A disadvantage of the single arc-lamp, like the mercury vapor lamp, is its inability to provide even distribution of radiation over the entire surface of the body. The skin is a natural defense mechanism against bacterial invasion. Therefore, whether radiation is used defensively or as a producer of vitamin D, the maximal area must be exploited, not merely the area nearest the arc. The nearest to ideal is a battery of four fluorescent tubes with phosphorous emitting long UVR down to 2800 Å and an envelope absorbing radiations below this wavelength. With appropriate reflectors an even reaction is obtained on the skin. A re-evaluation of ultraviolet rays to promote natural resistance is desirable.

RHEUMATIC DISEASES; ARTHRITIS

A Useful Preparation in the Treatment of Osteoarthritis, L. H. Wilkinson. Rheumatism 12: 63-67, 1956.

A compound containing small amounts of calcium aspirin (2½ gr.), calcium succinate (1½ gr.), suprarenel cortex (1-40) (gr. ½), sodium tauroglycocholate (gr. ⅛), guaiacol carbonate (gr. 1), ascorbic acid (gr. 1/12) (Dynotabs G. S. Co.) was used in treatment of 150 patients with rheumatoid arthritis, 1050 with osteoarthritis and 300 with nonarticular rheumatism. Relief of pain occurred in 70 per cent of osteoarthritic patients; in 26 per cent of those with rheumatic arthritis; and in only 2 per cent of those with nonarticular rheumatism. Pain was not increased in any patient but 9 per cent had to discontinue the compound because of gastrointestinal discomfort or dermatitis. Patients having relief of pain continued to take the tablets

for three months; 87 per cent had recurrence of pain one month after withdrawal of the tablets but on resumption of the treatment 96 per cent of these again had remission of pain. The standard dose is 2 tablets three times daily after eating, increasing to 3 tablets daily for a period of six days. Further experiments are suggested to determine the action and interaction of calcium succinate, suprarenal cortical extract and ascorbic acid in rheumatic arthritis and in osteoarthritis.

Electrophoresis in Rheumatoid Arthritis: A Study of 12 Cases, J. Houli and A. Hasson. Rheumatism 12: 52-55, 1956.

The electrophoretic pattern was studied in 12 patients with rheumatoid arthritis, one of whom had rheumatoid spondylitis with peripheral rheumatoid arthritis. In nine cases the plasma proteins were analyzed and in three patients the serum proteins. Results in the analyses suggest that quantitatively alterations in proteins increase as the disease progresses, but decrease in albumin concentration, and increase of fibrinogen plus gamma globulin fraction. Gamma globulin 2 increased in all cases.

X-Ray Diagnosis of Rheumatoid Arthritis, F. L. Ingram. Rheumatism 13; 9-12, 1957.

X-ray diagnosis of rheumatoid arthritis depends on demonstration of diffuse osteoporosis, reduction of joint space, erosion of joint margins, subluxation, and ankylosis. The first two are the most common early changes and occur mostly in the hands. Small erosions occur early with extensive erosion of the metacarpal heads; subluxation and ankylosis appear later. Adults aged 65 or more who lead an inactive life tend to have bones which slowly and progressively become less dense. Infection of a bone or joint is another cause of decalcification. Bone density after a severe rheumatoid arthritic attack never becomes normal again, even after the infection has cleared.

Rheumatoid Arthritis with Chronic Leg Ulceration, J. H. Allison and F. R. Bettley. Lancet 1: 288-90, 1957.

Six severely crippled patients had rheumatic arthritis and many subcutaneous nodules. Most of the ulcers appeared on the lower third of the leg on the inner or outer surface. The involvement of one patient was in the leg just below the knee and in another in the foot and toe. The earliest sign was a painful induration about 1 cm. in diameter which in one or two weeks broke down to form a punched-out ulcer which was surrounded by a reddish flush without edema. Pain was sometime severe. No evidence was found of varicose veins, phlebitis or vascular stasis of the legs. Although all ulcers were granulating, grafting proved a failure. It was suggested that auto-antibodies may have been responsible, or that the granulating ulcers may have had necrotic collagen at the base.

Rheumatism and Arthritis: Review of American and English Literature of Recent Years, W. D. Robinson, et al. Ann. Int. Med. 45: 831-945, 1059-1210, 1956.

An extensive review is presented on the subject of rheumatism and arthritis, describing the various types of these diseases, their causes, symptoms, relation to concurrent diseases and the many treatments used. An increasing interest in these diseases and recognition of their crippling effects are being manifested in America and England. Research has been accelerated by the dramatic effects of cortisone and ACTH in many cases. Recognizing that arthritis is a public health problem, many organizations work toward helping the physician to provide treatment of maximum effectiveness for the patients and a new era has been entered in medical study and practice in this field.

SURGERY

An Improved Method for Localization, Fixation and Removal of Foreign Bodies, W. W. Dalitsch. Amer. J. Surg. 92: 931-36, 1956.

Use of this special tissue-fixation clamp forceps facilitates localization, fixation and removal of foreign bodies in tissues, avoids displacement of the fragment and its moving into deeper areas, and produces minimum mutilation which could be caused by dissection in searching for the fragment. One prong of the instrument is needle-shaped and is tempered to a spring-like elasticity. The other blade has a hatch-marked surface and is also tempered. The first prong is placed into the tissues under the position of the foreign body as revealed by x-rays; then the forceps is assembled by placing the flat blade in position on the surface, securing the lock, and clasping the intervening tissue. The clamp helps to produce traction, thus permitting good access, hemostasis to afford a better operative field.

Preliminary Report on a New Type of Skin Closure, P. Williamson. Arch. Surg. 73: 1063-66, 1956.

A polyester film tape coated with pressure-sensitive nontoxic adhesive affords exceptional toughness and resilience and adheres firmly to the skin. The tape is perforated to allow egress of wound secretions. It has been used in approximately 1,000 cases and results are being studied. It is felt that wound healing is about 30 per cent faster since there are no sutures to act as foreign bodies. Inflammatory reactions occurring in about 5 per cent were considered due to inadequate cleansing or to too much manipulation of the wound. This measure cannot be used in wounds of the eyelids or of the axilla. The material is not supposed to be ready for distribution until the middle of 1958, but samples for research purposes may be obtained by surgeons from the author. (8124 Princess Jeanne N. E., Albuquerque, N. Mex.).

X-RAY

Treatment of Crush Injuries of the Hand or Foot by Early Irradiation, A. E. Flatt. Proc. Roy. Soc. Med. 49: 810-11, 1956.

In cases of crush injury intra- and extracellular edema lead to a swollen edematous part, infiltrated with protein-rich fluid which precipitates fibrin between all moving parts and between the cells of each tissue. Ultimately there is ingrowth of blood vessels and connective tissue, producing a congealed hand or foot. All of 46 patients treated with radiotherapy (irradiation dose of 100 to 300 r, the majoriy receiving 150) showed encouraging results. The treatment had no detrimental effect on healing and it is suggested that it may be used even in cases in which metal pins transfix fractures and in which skin loss has been replaced by an abdominal flap. Patients are freer of symptoms and return to work earlier than those without x-ray therapy.

MISCELLANEOUS

Interesting Facts About Feet, D. M. MacBane. J. Amer. Geriatrics Soc. 4: 1121-25, 1956.

The Cope Report (Great Britain) agreed with Representatives of the British Orthopedic Association that a chiropodist should be available in both in-patient and out-patient departments in every general hospital, and especially in departments treating diabetic, orthopedic, dermatologic, and rheumatic patients. There will be an increasing demand for chiropodic service as geriatric work continues to develop. The evolutionary development, anatomy, and functions of the human foot are briefly outlined. The shoe recommended for an adult woman is the oxford of the nurse's type, with five or six eyelet laces, cuban heel, and the pattern cut out as high at the

side of the foot as possible. A calfskin shoe is sturdy and durable, but kidskin may be more comfortable. The welt or stitched-on sole of an oxford shoe affords the most support and protection. Prophylactic care of the feet of the aged is necessary; daily warm foot baths, frequent changing of hose, and antiseptic care, with protective dressing of any skin lesion.

Inkless Method of Finger, Palm, and Sole Printing, N. F. Walker, Jr. J. Pediatrics 50: 27-29, 1957.

A new chemical method of obtaining these prints is demonstrated. The materials used are sensitized paper and small individual flannel pads dampened with a chemical solution. (Faurot, Inc., 299 Broadway, New York 7, N. Y.). The pad is rubbed over palm or sole and the solution well worked into the skin. The palm or sole is then pressed firmly on the sensitized paper which has been laid on a ½-inch rubber pad. For prints of sole the toes and turned well back, and the sensitized paper, held on a thin rubber pad, is pressed well in at the base of the toes, and then pressed along the sole.

ZEBRACK *(Continued from Page 428)*

Unilateral Arch — Pain

With only 7.5% of the individuals measured exhibiting a disorder of this nature, it was found that only a 3/16″ average shortage existed.

Bilateral Arch Pain
Weakfoot — Pes Planus

22.2% of the men measured came forth with this syndrome, however, average shortages did not increase, but remained as above (3/16″) for Unilateral Conditions.

Forefoot Disorders — Rt.

5% of those measured disclosed forefoot faults, in all cases of the right foot, with an average shortage of that limb of 4/16″.

Contracted Toes

Though of little significance in the average column, with a 1/32″, 7.5% of the men measured did list this in their questionnaire.

Heel Pain

Heel pain was described in 10% of the questionnaires evaluated, with an average figure in the shortage column at 3/16″.

Summary

This paper is an attempt to correlate various foot faults, with inequalities in the lengths of extremities. With only 40 cases as the basis for the averages compiled, this paper is far from a conclusive study, also the reader should be aware that these are only Clinical Findings, with x-ray evaluation necessary to confirm or disprove the measurements listed.

However, so often the thought of a shortage is overlooked, that this research was carried on to prove the presence of these equalities or inequalities with their frequency of occurrence. Also in evaluating this paper, the reader should carefully view the Questionnaire Survey Chart group since excessive inequalities may be explainable by checking the patient's past injuries, and the etiological nature of their problem may be better understood by evaluation of the amount of standing an individual did before entering the Army and the amount his job requires now.

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ORGANIZATION NEWS

Secretaries of local, state, regional, affiliated, subsidiary and other related organizations are invited to submit copy for these columns.

AUSTRALIA

The Australian Chiropody Association has absorbed the older society of chiropodists. Legislation was introduced this year, granting legal standing to chiropodists to practice their profession.

ILLINOIS

The Northern Illinois Podiatry Association is conducting a "Symposium on Industrial Foot Health," October 11, 12, 1958 at the Faust Hotel, Rockford, Illinois. Representatives from industries in neighboring communities have been invited to attend. The program for podiatrists-chiropodists will include: MacRoy Gasque, M.D., Medical Director Olin Matheson Chemical Corporation, Pisgah Forest Division, Lecturer on Industrial Medicine in leading southern universities; L. T. Robertson, M.D., Principal Consultant to General Hayes, Surgeon General of the Army and consultant to our country's leading industries; Morton Gaines, Pod.D., Director of Foot Health, Haynes Hosiery Mills; George Holt, D.S.C., Staff Clinician at Eucusta Paper Co., Endless Belt Co., The Cellophane Corp. affiliated with Olin Industries.

Communications regarding registrations should be addressed to Dr. M. L. Golde, 2125 Broadway, Rockford, Illinois; hotel reservations to Dr. E. J. Gray, 627 Hunter Avenue, Rockford, Illinois.

MONTANA

The annual meeting of the Montana Association of Chiropodists was held in Great Falls on June 21, 22. The following officers were elected: President, Dr. L. M. Jennings of Bozeman; Vice-President, Dr. Elsie Kenna of Billings; Secretary-Treasurer, Dr. William Wilkinson of Great Falls.

Guest speaker for the scientific program was Dr. Heber Routh, Spokane, Washington, who spoke on podopediatrics and newer concepts in chiropody. Several Canadian chiropodists were in attendance at the scientific sessions.

"LIFE'S FOUNDATION — YOUR BABY'S FEET" is an outstanding and comprehensive booklet on the growth and care of children's feet. Written for the layman, it is concise, cleverly illustrated and will prove valuable especially to the parents of young children. Many Chiropodists have received a copy of this booklet and have ordered them in quantity. For those of you who have not ordered and for those who wish to reorder, please clip the order blank below and mail with your check for your supply.

WOMEN'S AUXILIARY
AMERICAN PODIATRY ASSOCIATION
(National Association of Chiropodists)
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Please ship to me "Life's Foundation — Your Baby's Feet" in the quantity marked:

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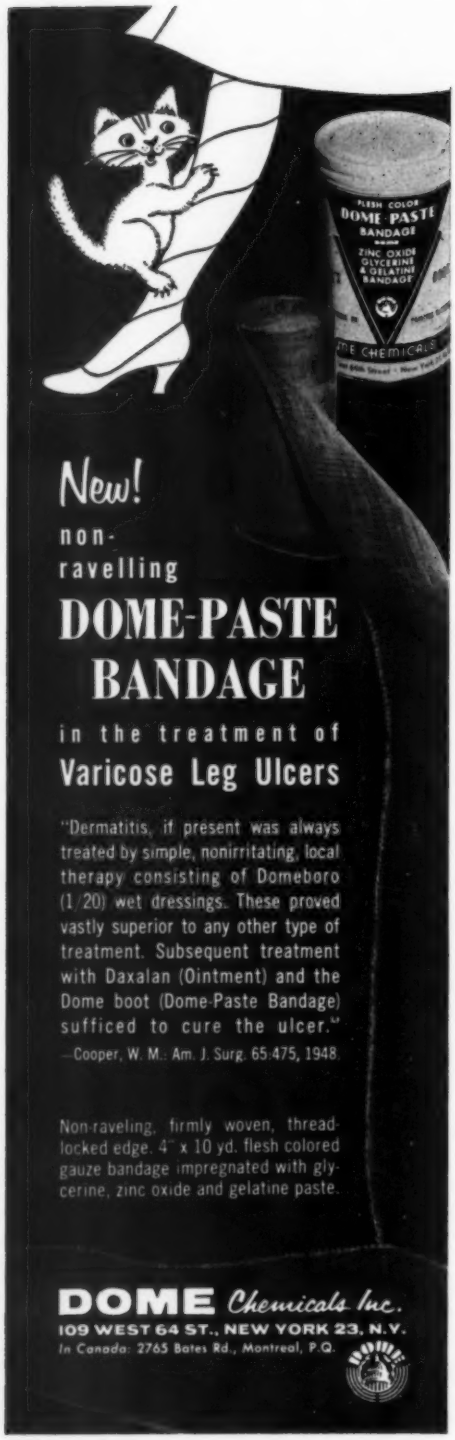
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—Cooper, W. M.: Am. J. Surg. 65:475, 1948.
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AUDIO-VISUAL INFORMATION

A recent addition to the Audio-Visual Council has been the appointment of an associate chairman in charge of the Audio Section. The council, under Dr. Marvin W. Shapiro, Chairman, has for years been making steady progress in this most important phase of Audio-Visual Education. However, with the appointment of Dr. Charles S. Kaczmarek of Toledo, we are now prepared to cover every important event, such as conventions, lectures, and talks on Pedic Medicine. These tapes will be edited and prepared for distribution to the membership upon request. Our library of tape recordings will be included in the new brochure which is now being completed by the Audio-Visual Council.

The council has recently reviewed two excellent 16mm. films. These films as well as subsequent films will be reviewed periodically to keep pace with the ever changing growth of our library of films.

1. The Surgical Approaches to the Joints of the Foot

This is a 16mm. sound and color film, running time 31 minutes. A combination of anatomic demonstrations, animated drawings and surgical techniques of the various approaches to the important joints of the foot are shown. Medial, lateral, plantar and dorsal approaches are demonstrated for the purpose of surgical techniques. A triple arthrodesis is one example. This film is highly recommended by the Audio-Visual Council. It is available on loan from the Audio-Visual Council or from the Medical Section, Veterans Administration, Washington, D. C.

2. The Use of Aeroplast Dressing in Surgical Wounds

This is a 16mm. color and sound film, running time 15 minutes. It depicts the technique and use of a plastic spray-on surgical dressing. This dressing is shown to have anti-bacterial properties, non-allergic, non-toxic and is transparent.

Although the use of Aeroplast dressing in this form was confined to Colostomies, Ileo-

stomies and chest surgery, its value in Pedic Medicine is apparent. Application over pressure points to avoid skin breakdown could make this a valuable adjunct to treatment in the office. More study by members of the profession could bring out its further uses in Podiatry.

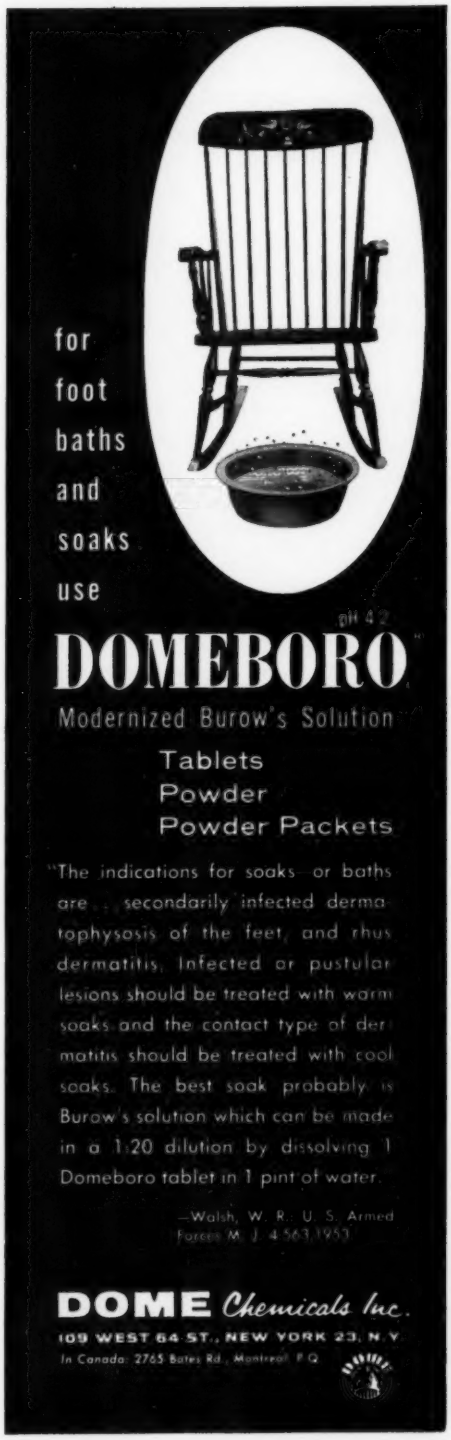
This film was presented by Stanley Rigler, M.D., and W. E. Adams, M.D., Department of Surgery, University of Chicago. It is available on loan from Aeroplast Corporation, 420 Dellrose Avenue, Dayton 3, Ohio.

M. M. Greenfield, D.S.C., Secretary
Audio-Visual Council, A.P.A.

WOMEN'S AUXILIARY MESSAGE

Too many of us in the daily rush of living have forgotten two very important factors.

First—let's think about the "Art of Getting Along." How long has it been since you really gave serious consideration to this point? Do you remember to say "Good Morning" and by the tone of your voice really mean it, to not only your associates, but to the janitor or your elevator operator? It is amazing what you can accomplish especially if you say it with a smile. Do you lose your temper too frequently? Then it is time for a vacation. The one who loses his temper may also lose out in the long run. Do you carry a chip on your shoulder? This, you will find out, is the quickest way to get into a fight. Have you learned to be attentive and sympathetic to the young professional man? Do you remember how bewildered you were when you started in practice no matter how brave a front you put up? A word of encouragement along the way may build into a lasting, very appreciative and fruitful friendship. The person who has the ability to get along well with people usually acquires it by constant practice, not as a free gift from nature. It is not something that can be turned on and off like a water faucet. How much it can mean to each of us when we find out that getting along depends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soaks
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"The indications for soaks or baths are . . . secondarily infected dermatophysosis of the feet, and rhus dermatitis. Infected or pustular lesions should be treated with warm soaks and the contact type of dermatitis should be treated with cool soaks. The best soak probably is Burow's solution which can be made in a 1:20 dilution by dissolving 1 Domeboro tablet in 1 pint of water.
—Walsh, W. R.: U. S. Armed Forces M. J. 4:563,1953
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ninety-eight percent on our own behavior!

Secondly—do we show enough appreciation? How about our immediate families? Do we ever say "thank you" when our wife or husband performs some extra service for us or do we take it for granted? Do we praise our children for good grades on the report card or for a task they are particularly proud of accomplishing? Do we let people know we appreciate the time they spend doing things for us? Do we let speakers at our meetings know by an appreciative comment that we were paying attention? Or how about the people working closely with you each day? Do they ever get a word of encouragement? Perhaps we think of it but do not do it. Try practicing "Appreciation" and see how much more pleasant your life will become.

Following is a quote from the EXCHANGE that I thought well worth repeating:

"I believe that an ounce of fact is worth a ton of ballyhoo. I believe that the only way to make friends is to be one. In winning friends, I shall use sincerity and not trickery.

I believe in being kind. I believe in inspiring men—not driving them. I believe the greatest thing a man can do is to help another man to grow.

I believe that a man is as young as his mind. It is not the passing of years, but the loss of enthusiasm for the adventure of living that wrinkles the soul. A man is as old as his doubt, as young as his faith.

I believe in the future; the past was great and I believe the future will be greater."

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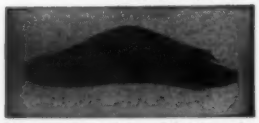

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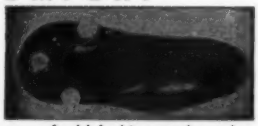

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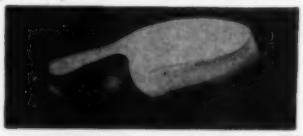

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CONVENTION DATES AND MEETING NOTICES

American Podiatry Association
New York, N. Y.
August 14-18, 1959
Waldorf-Astoria Hotel

Region One
(Conn., Maine, Mass., N. H., R. I., Vt.)
Boston, Mass.
Oct. 17, 18, 19, 1958
Sheraton Plaza Hotel

Region Two
(New York)
New York, N. Y.
Feb. 20-22, 1959
Barbizon Plaza Hotel

Region Three
(Del., Md., N. J., Pa.)

Region Four
(Ohio)

Region Five
(Ill., Ind., Mich., Wis.)
Chicago, Ill.
March 20-22, 1959
Morrison Hotel

Region Six
(Colo., Iowa, Kan., Minn., Mo., Nebr., N. Dak., S. Dak.)
Kansas City, Kans.
April 10-12, 1959
Town House Hotel

Region Seven
(Idaho, Mont., Oreg., Wash., Wyo.)

Region Eight
(D. C., N. C., S. C., Va., W. Va.)

Region Nine
(Florida)

Region Ten
(Ala., Ga., Ky., Miss., Tenn.)
Memphis, Tenn.
Oct. 10-12, 1958
Peabody Hotel

Region Eleven
(Ark., La., N. Mex., Okla., Texas)

Region Twelve
(Ariz., Cal., Nev., Utah)

Western Chiropody Congress
San Francisco, Calif.
May 29-30, 1959
Mark Hopkins Hotel

Idaho Podiatry Association
Sun Valley, Idaho
Sept. 19-21, 1958
Sun Valley Lodge

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PHARMACEUTICAL RECOGNITION OF FOOT SPECIALISTS

It has been a major effort of The American Foot Health Foundation to secure for American podiatrists-chiropodists specific recognition before the public in advertising and packaging copy in connection with over-the-counter sales of foot products.

The Foundation is pleased to report its first success in such efforts with one of the larger pharmaceutical houses. Dr. John M. Shaul, Medical Director of Whitehall Laboratories, a division of American Home Product Corporation, has authorized Dr. Hirschberg to issue the following statement on behalf of his company, which is self-explanatory:

This new labelling which identifies the Foot Specialist in his own right will begin to appear as existing supplies of the above products are replaced.

> "Whitehall Laboratories, manufacturers of a large group of proprietary drug products, have recently revised copy for packaging of their two foot preparations, *Freezone* and *Outgrow*. Packaging about to go into production will include the statement 'If condition persists, see your physician or *Foot Specialist*.' We believe this reflects a high sense of responsibility in the labelling of over-the-counter products, and a commendable example which it is hoped will be emulated by other manufacturers."

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YOUTH FOOT CARE WEEK KITS STILL AVAILABLE

Despite the original deadline for inquiries for Youth Foot Care Week Kits, as of June 30th, The American Foot Health Foundation will still honor requests for this information as there is still time to get under way with this program on the local level.

Added impetus and importance has been given this national event through the coordination of the nationwide Children's Free Foot Health Examination Program (highlight of the week's activities) with *President Eisenhower's Council On Youth Fitness.* American Youth Foot Care Week will serve as one extremely important aspect of that Council's continuing program in the interests of America's children.

Requests so far have been received from 30 states for copies of the 11 page kit which includes instructions in a complete "Do-It-Yourself" style, along with a Foot Health Examination Chart, and specimens of all the forms and procedures required to conduct the week's program locally. This specially prepared "packaged" program simplifies the entire operation at local level. Inquiries which were received before the deadline were supplied with these kits without charge. Orders received now will require enclosure of a check for $1.00 to cover extra handling costs. Write direct to Dr. Sidney Hirschberg, Executive Director, American Youth Foot Care Week, 107-07 Continental Avenue, Forest Hills 75, N. Y.

DEATHS REPORTED

Ross Blue, Ann Arbor, Mich.

E. K. Schlanger, Wilmington, Delaware

Dr. Schlanger died suddenly on June 26 after practicing in Wilmington for more than twenty years. He was an active member of the Association and the Delaware Chiropody Society, serving as Secretary of the latter during the past year. Dr. Schlanger graduated from the Illinois College of Chiropody and Foot Surgery in 1932 and joined the N.A.C. in 1933.

FOR THE FINEST IN LATEX SHIELDS

CUSTOM BUILT PROSTHETICS DESIGNED AND TAILORED
BY CHIROPODISTS FOR THE CHIROPODY PROFESSION
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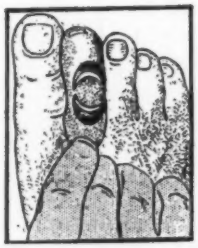

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MOOD ELEVATORS

Contributions to this column are more than welcome. In fact it depends upon them.
A.O.P.

Doctors doubt that hard work ever really killed anybody but they have had cases where it seems to scare a person half to death.

English as she is spoke.

A youngster took a pair of shoes to a cobbler and being an inquiring sort of a boy asked the man what he would repair them with.

"Hide," said the cobbler.

"Hide!" exclaimed the boy. "Why should I hide?"

"Hide, hide," said the cobbler. "The cow's outside."

"So what!" demanded the boy. "Who's afraid of a cow?"

Ole Man River Says,

"The new gunny-sack dresses make a man wonder what a girl hasn't got that she wants to hide."

"Why in 1919 I only paid two dollars."

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originator of foot balance inlays is directed in all its endeavors to accomplish this result

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UNUSUAL OPPORTUNITY—New Jersey, good, established practice, equipment (optional) and excellent building which contains two apartments plus five-room office. One apartment will carry mortgage. Will remain with purchaser for an agreeable period of time. Would prefer settlement after January 1st for tax purposes. 2 to 2½ years' income will surpass my selling price. Leaving state for health reasons. Write 802, c/o American Podiatry Association, 3301 Sixteenth Street, N. W., Washington 10, D. C.

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CURRENT?

THE FUNGUS DIAGNOSTIC SERVICES

FOR RAPID AND ACCURATE DETERMINATION OF THE PRESENCE OF FUNGUS INFECTION SIMPLY MAIL IN SKIN SCRAPINGS, BLISTER TOPS, OR NAIL CLIPPINGS. COLLECT ON, AND FOLD INTO A SHEET OF PAPER. EASIER THAN A BIOPSY, SURER THAN A GUESS. INQUIRIES INVITED.

H. C. GOLDBERG, M. D.
DIPLOMATE AMERICAN BOARD OF DERMATOLOGY

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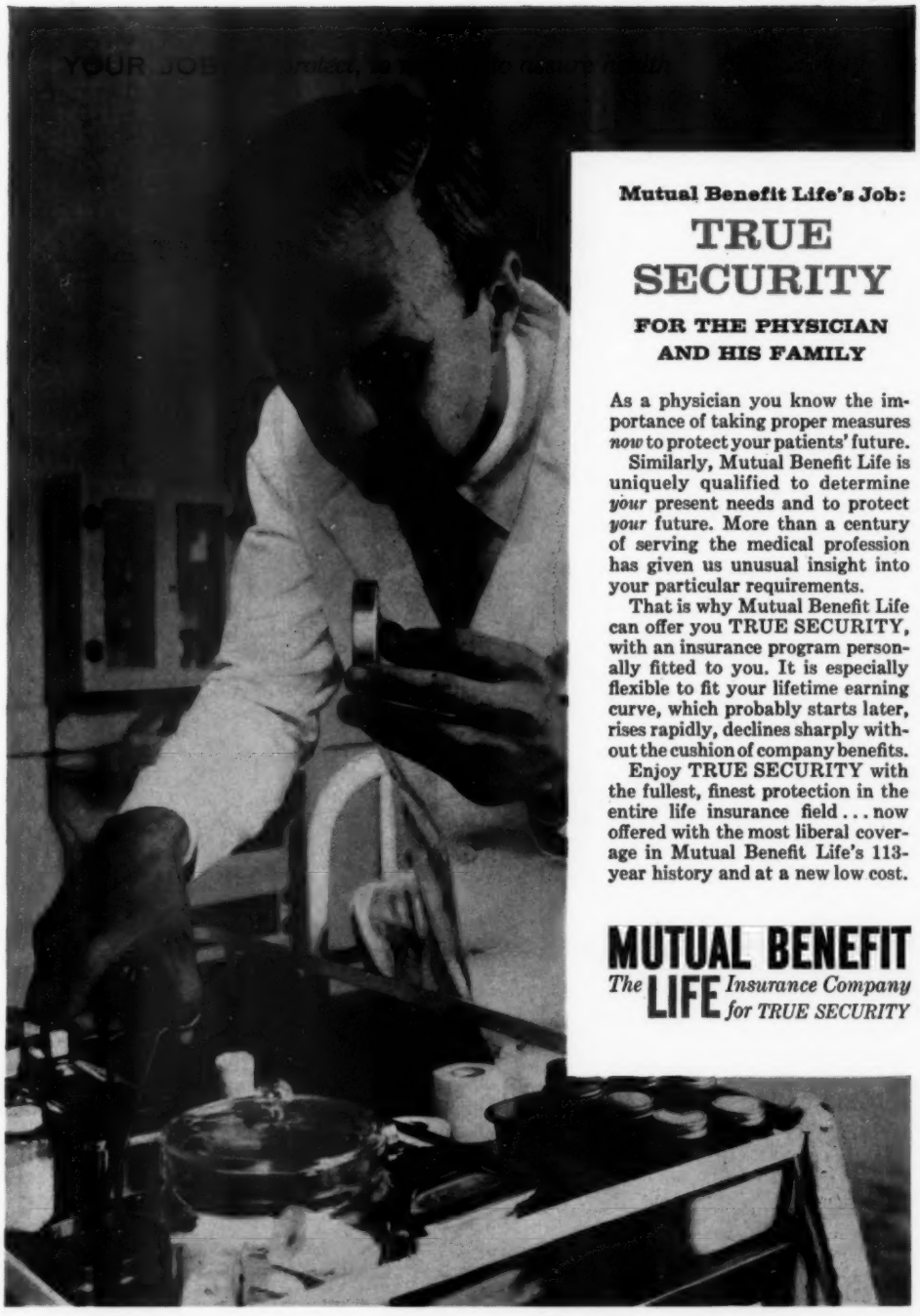

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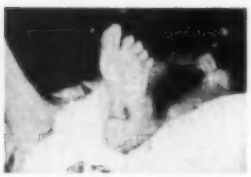
the unique nitrofurans eliminate

problem pathogens

problem pathogen: Staphylococcus aureus

"The ability of this organism to adjust to its antibiotic environment is one of the major problems in medicine today."*

FURACIN CASE REPORT: STAPHYLOCOCCAL OSTEOMYELITIS



Severe compound fracture of right foot led to a large, open ulcerated wound on the sole, with tarsal bones exposed and necrotic. Despite extensive debridement, removal of necrotic bone and attempted closure with a pedicle flap, the wound failed to heal and developed considerable purulent drainage.

Culture of pus revealed Staphylococcus aureus, *resistant to all antibiotics tested,* but sensitive to FURACIN. Daily irrigation was instituted, employing 1 part of FURACIN Solution to 4 parts normal saline. Depths of the wound were reached with a long #20 needle on a 20 cc. syringe.

Purulent drainage decreased considerably within a few days, stopped completely after 2 weeks of irrigation with FURACIN Solution. The open space beneath the pedicle flap gradually filled with healthy granulation tissue, and 6 weeks after institution of FURACIN treatment, healing was complete.

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Koch, R., and Donnell, G.: California Med. 87:313, 1957.

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